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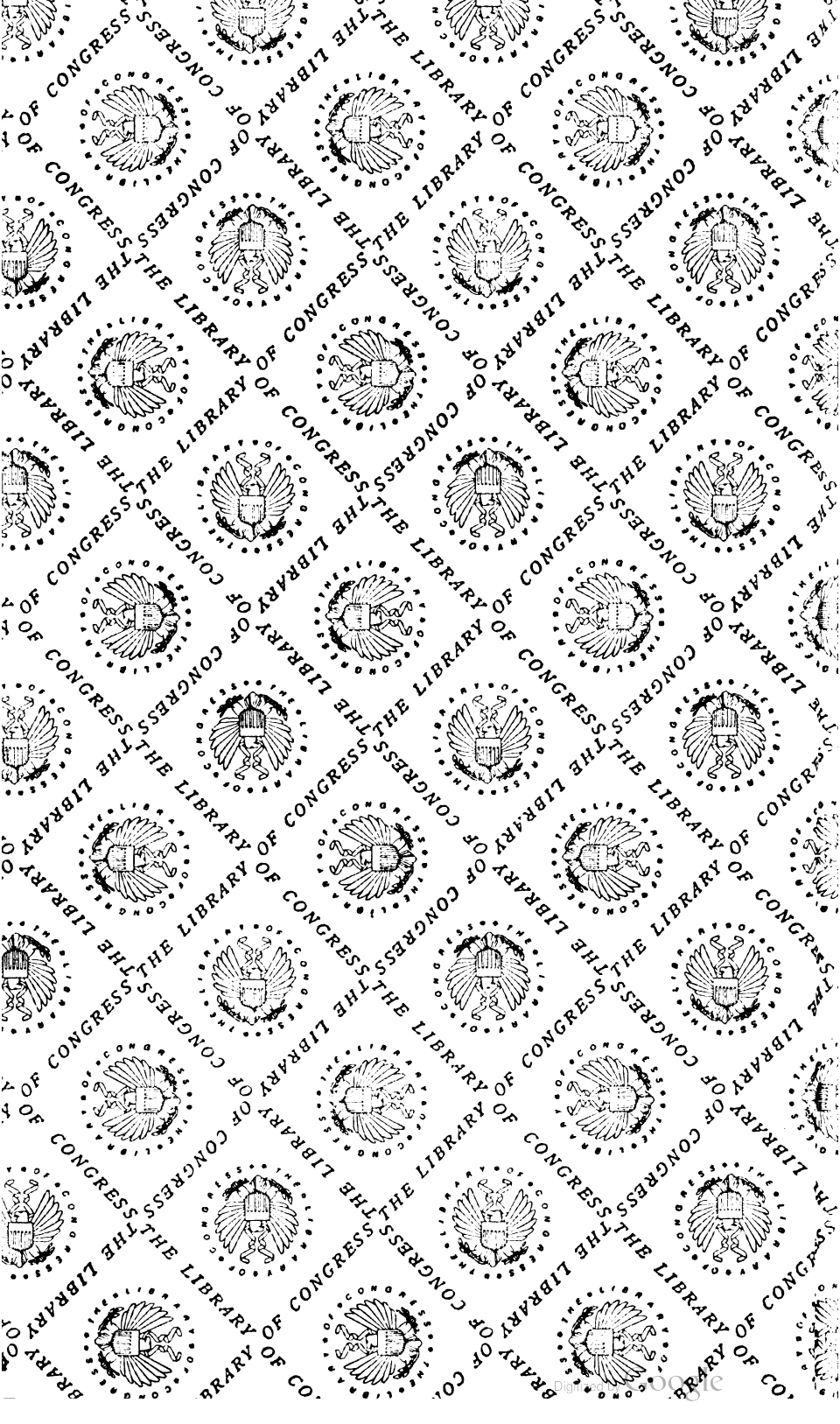
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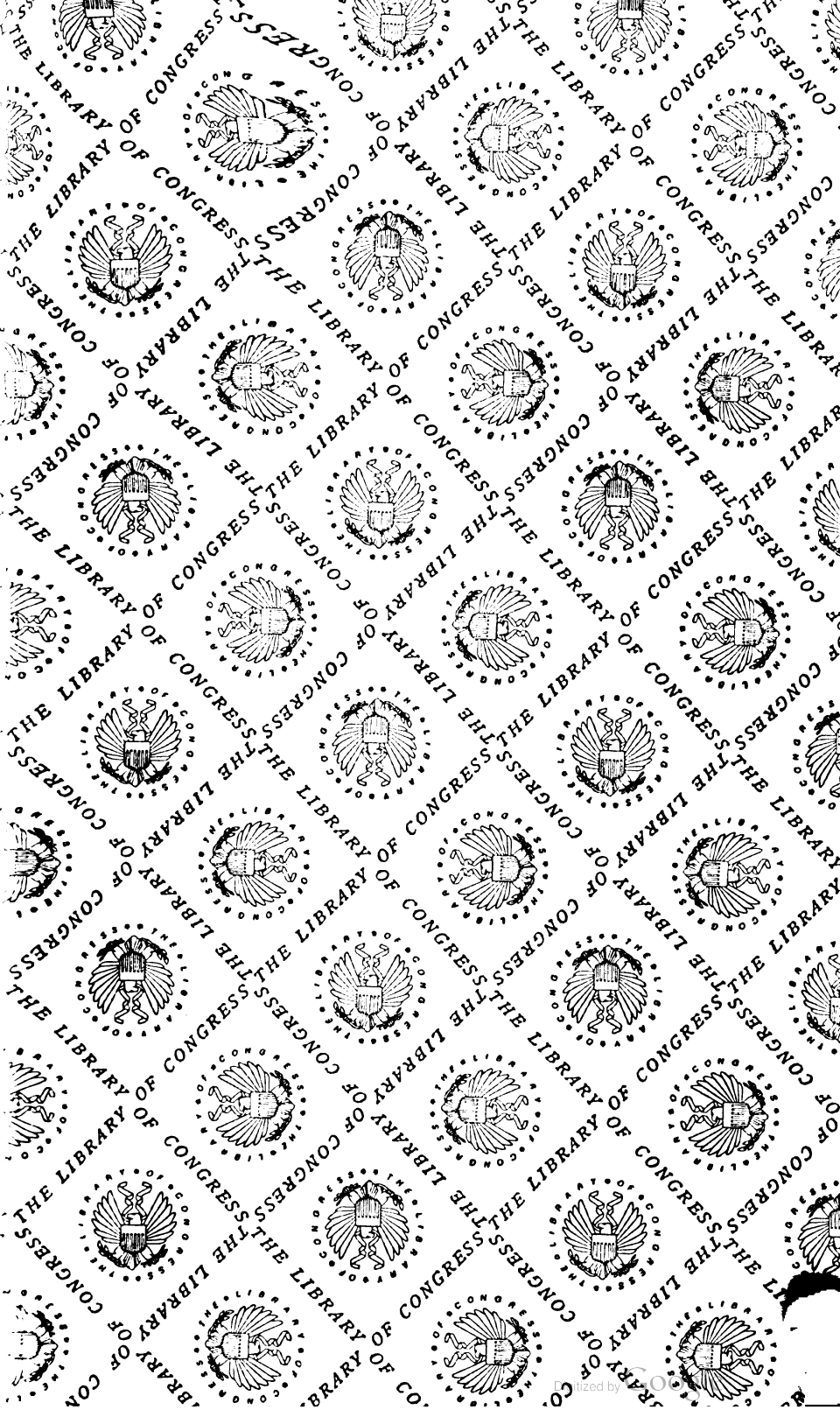
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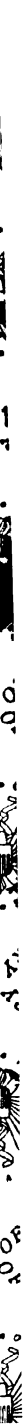
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AGRICULTURE APPROPRIATION BILL, 1917

HEARINGS

U.S. Congress Senate BEFORE THE

1 **COMMITTEE ON AGRICULTURE AND FORESTRY,
UNITED STATES SENATE**

SIXTY-FOURTH CONGRESS

FIRST SESSION

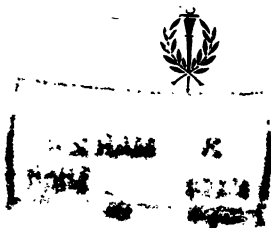
ON

H. R. 12717

**AN ACT MAKING APPROPRIATIONS FOR THE DEPARTMENT
OF AGRICULTURE FOR THE FISCAL YEAR ENDING
JUNE 30, 1917, AND FOR OTHER PURPOSES**

MAY 15 AND 17, 1916

Printed for the use of the Committee on Agriculture and Forestry



**WASHINGTON
GOVERNMENT PRINTING OFFICE**

1916

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AGRICULTURE APPROPRIATION BILL, 1917.

MONDAY, MAY 15, 1916.

UNITED STATES SENATE,
COMMITTEE ON AGRICULTURE AND FORESTRY,
Washington, D. C.

The committee met at 10.30 o'clock a. m., pursuant to call, in the committee room in the Capitol, Senator Thomas P. Gore presiding.

Present: Senators Gore (chairman), Smith of South Carolina, Sheppard, Shafroth, Ransdell, Thompson, Johnson of South Dakota, Warren, Page, Gronna, Brady, Norris, Kenyon, and Wadsworth.

Present also: Hon. David F. Houston, Secretary of Agriculture.

The committee proceeded to consider H. R. 12717, an act making appropriations for the Department of Agriculture for the fiscal year ending June 30, 1917, and for other purposes.

The CHAIRMAN. It was the plan of the committee originally to have the heads of a few bureaus present to discuss certain items in the bill, but the Secretary is obliged to be absent to-morrow and during the remainder of the week, and as the committee desired to hear him and requested him to come this morning, he is here. I think we had better ask the Secretary about a few items that were passed over to be taken up with him, and then we will get him to discuss any items that the House omitted that were contained in the estimates.

I will say, Mr. Secretary, that the two items of chief importance were the citrus canker situation in Florida and the foot-and-mouth disease. I may say that the subcommittee put in \$250,000 in addition to the \$250,000 inserted by the House, and afterwards learned that the department felt they could not use more than that amount. Senators are very anxious to stamp it out now without delay if it can be done, and the question was whether or not you could increase your organization to such a degree of efficiency as to do that now. We felt that there was no economy in delay in that sort of situation.

The proposition with respect to the foot-and-mouth disease was to reduce the appropriation to \$1,000,000, on the ground that it was a contingent fund, and if it were not needed it was unnecessary to appropriate it, and if it should be needed Congress would be in session until July or August and would reassemble in December, and any emergency could be cared for.

I think those are the two principal points. We will hear you discuss those first and then take up any other items.

Secretary Houston. There are some unknown facts in the citrus-canker situation; but, in view of all the information we have, we are inclined to think that the amount already appropriated, plus the

estimate of the department, will carry us through the next fiscal year. They will certainly carry us considerably beyond the time of the assembling of the next Congress.

Senator WARREN. You still have quite a large part of that which was carried in the deficiency bill?

Secretary HOUSTON. Yes. Congress gave us \$300,000 as an emergency appropriation. We have asked for \$250,000 additional. I assume that the States concerned recognize that they have a local interest in the matter, and that they will not be disposed to ask the Federal Government to assume all the burden. It is a matter of great concern to Florida, and the growers and the State itself, it seems to me, ought to recognize an obligation. I am told that first and last they have expended something like \$300,000. I have had no specific information on hand as to the amount.

Senator WARREN. That is, the State?

Secretary HOUSTON. Yes; the State and communities and growers. Certainly if they are expected to do what seems to me to be their fair part and put up local funds, the deficiency appropriation, plus the amount we have asked for, plus such other local funds as may be put up, will carry us through the fiscal year.

Senator PAGE. Do I understand you now have this \$250,000?

Secretary HOUSTON. We have the \$300,000 item carried in the deficiency bill, less what we have expended to date.

Senator RANSDELL. Could you tell us about how much has been expended?

Secretary HOUSTON. Approximately \$70,000. The work has not been under way very long, and we have had to get an organization together. We are as anxious as any of the parties concerned not to let the work be suspended; so I inquired very particularly as to the danger. Dr. Taylor and Dr. Kellerman, who are immediately in charge, have assured me several times that they think the amount asked for is ample under the conditions outlined.

Senator PAGE. Is there no doubt in your mind that if next December there should be any pressing demand for more money Congress would step in and provide it?

Secretary HOUSTON. I have no doubt about it; especially as we should then be able to give you a full, concrete statement, which we can not now do.

Senator RANSDELL. Mr. Secretary, I understood you to say that your estimates were based somewhat upon the contribution of the States—a local contribution?

Secretary HOUSTON. I spoke of contributions from States or communities or the growers. I do not mean to say, Senator, that we should not be able to proceed with the work satisfactorily even though there were no such contributions. I am confident that we should be able to do so beyond the time of the reassembling of Congress.

Senator RANSDELL. Could you give us any idea how much local contributions would be required in the State of Florida?

Secretary HOUSTON. No; and I am not absolutely sure that there will be any further contribution during the present season, but I imagine that the State or localities will be inclined to do what is reasonable.

Senator RANDELL. I have been told that the Legislature of Florida will not meet until 1917.

Secretary HOUSTON. April of next year.

Senator RANDELL. Hence they would not be in shape to make a contribution as a State. I do not know that that would militate against the citrus-fruit growers putting up some money.

Secretary HOUSTON. We shall be in better shape next November or December to give you a reliable estimate as a basis for a deficiency or emergency appropriation, if more money is needed from the Federal Treasury.

Senator RANDELL. Have you any information about this new outbreak that Senator Bryan has telegraphed us all about?

Secretary HOUSTON. I have made inquiries in the department; but I have received no information concerning any new centers.

Senator RANDELL. Senator Bryan wired all of us that there had been a new outbreak there.

The CHAIRMAN. You feel, then, Mr. Secretary, that the funds available and those to be made available by this bill will be ample until Congress reassembles?

Secretary HOUSTON. I think so, Mr. Chairman. I imagine also that the Congress will be prepared to make a further appropriation later if the facts justify it, and that we shall be in a better position later to make an estimate.

The CHAIRMAN. Your plan of campaign is to extirpate this trouble entirely rather than to control it?

Secretary HOUSTON. Yes.

Senator RANDELL. Suppose the local communities, Mr. Secretary, do not contribute. Then may I ask what would be your idea of going ahead?

Secretary HOUSTON. I think we shall certainly have enough to carry on the work well beyond the time of the assembling of Congress.

Senator RANDELL. Well beyond the 1st of next December?

Secretary HOUSTON. Yes. I asked Dr. Kellerman before I submitted the additional estimate of \$250,000 how far this, together with the emergency appropriation, would carry us. He told me he felt satisfied it would carry us well into the winter. The emergency appropriation is \$300,000. If you make an appropriation of \$250,000 for the next fiscal year I have no doubt as to the safety of the situation beyond the time indicated.

Senator RANDELL. Then if you felt the need were great enough to warrant it, you would go ahead and spend all this money, depending on Congress to make an additional emergency appropriation?

Secretary HOUSTON. Yes.

Senator RANDELL. That would be the general policy of the department, I ask?

Secretary HOUSTON. Yes.

The CHAIRMAN. Mr. Secretary, with respect to foot-and-mouth disease it was suggested—at least provisionally in subcommittee, not by the whole committee—that the \$2,500,000 for foot-and-mouth disease might possibly be reduced a million. They thought it was anticipating the future, and that if the emergency should not arise the funds would not be necessary, and if it should arise Congress would be in session and would find ways and means to meet it. It

was suggested more particularly that Congress would probably be in session until the latter part of August and would meet again in December, and we might in that way meet any possible emergency that might arise. I think the purpose that the committeemen had in mind was to keep the bill as a whole within as conservative limits as possible.

Senator PAGE. Mr. Secretary, is not the foot-and-mouth disease stamped out entirely, as far as you know?

Secretary HOUSTON. There has been only one isolated case since about the 25th of January. While I can not say that there will not be a recurrence of the disease. I am inclined to think that there will be no considerable trouble. In some places where we had to deal with the disease the weather conditions were very bad. There was snow, rain, and mud. In a number of cases the germs were unquestionably tramped into the mud, and the disinfectant did not reach all the germs. That seems to be the explanation of the case we had some time ago. I hope that any appropriation you may make will simply be an insurance fund. I trust we shall not have to spend any of it, but we should be in very bad shape if we should have a serious outbreak and not have money available.

Senator GRONNA. Are there any claims pending now, Mr. Secretary, for loss of stock?

Secretary HOUSTON. The only case I have on my desk is one from Mr. Baker, of Illinois, who thinks he was not paid enough for his herd.

Senator GRONNA. Should there not be an appropriation in this bill to take care of that? That is, in case there should be any further outbreak and cattle had to be killed, should there not be an appropriation available?

Secretary HOUSTON. Yes; and I understand that the committee contemplate making an appropriation.

The CHAIRMAN. Yes; there was \$2,500,000 in the bill as it came from the House for that.

Senator GRONNA. Yes. The committee was thinking of reducing it to \$1,500,000.

Senator KENYON. Was not that defeated in the House?

The CHAIRMAN. No, sir; the appropriation was not defeated. Certain phraseology, under the rule, went out on a point of order.

Secretary HOUSTON. The House bill carries \$2,500,000. The chairman's thought and the subcommittee's thought, as I understand it, is this: The Congress will be in session well into the summer probably, and will reconvene in December; there would be only the period from August to December to provide for; and an appropriation of less than \$2,500,000 would be sufficient insurance for that period. I think the special appropriation in full would be much more satisfactory. I believe there would be a good deal of apprehension on the part of the people generally, Mr. Chairman, if the fund were not clearly amply sufficient.

The CHAIRMAN. Yes; I feel that apprehension myself.

Senator WARREN. Would it cut any figure really in the amount expended whether we made the appropriation large or small, except that in the one case you could do it in the regular and legal way and in the other case you would have to take from other funds and ask for a replacement?

Secretary HOUSTON. It would not.

Senator WARREN. In other words, it can not be expended except for the one purpose, and the necessary amount must be expended, whether it is large or small, right on the spot?

Secretary HOUSTON. The special appropriation is spent only for the one purpose. You will remember that some question arose as to certain vouchers which were paid. The explanation was that we felt authorized to meet this outbreak by using certain funds appropriated for the Bureau of Animal Industry. They were the only funds we had available; and when Congress made the special appropriation it authorized us to reimburse these funds. The simplest way we could do so was to pay the vouchers that had arisen under these funds.

In dealing with the matter for the next fiscal year, the most satisfactory way would be to make a special appropriation of a sum sufficient to cover any emergency, and if it did not arise we would not spend a cent of it. The only drawback is that it loads the bill down with an appropriation that may not be expended.

Senator WARREN. You have no organization especially for fighting foot-and-mouth disease. It comes under the Bureau of Animal Industry and the men that are doing other lines of work?

Secretary HOUSTON. We have some regular officers whose services we availed ourselves of, but we had to create a very large organization to handle this particular outbreak.

Senator WARREN. Do you have to continue that?

Secretary HOUSTON. No.

The CHAIRMAN. It was the necessity of creating that organization that permitted the disease to get the start in the first place, was it not, Mr. Secretary?

Secretary HOUSTON. Not to get a start. I suppose we could have handled the situation better if we had had a very large thoroughly trained organization in existence.

Senator RANSDELL. Could you tell us in round numbers how much has been expended on account of foot-and-mouth disease since the beginning of this last outbreak?

Secretary HOUSTON. It will be found in the House committee hearings, page 1577.

The CHAIRMAN. \$4,444,000, as I remember.

Secretary HOUSTON. On this item, Mr. Chairman, I suggest that on page 120 of the House bill, line 24, you strike out the words "an outbreak" and insert in lieu thereof "the existence."

The CHAIRMAN. You do not think it would be better to have both, Mr. Secretary?

Secretary HOUSTON. I think the latter would cover both, Mr. Chairman.

The CHAIRMAN. I thought that might mean a continuing of the present outbreak. Very well; we will make a memorandum of that.

Secretary HOUSTON. Page 121, line 7: At the end of the line insert a comma in lieu of the period and add the following language:

including the payment of claims growing out of past and future purchases and destruction, in cooperation with the States, of animals affected by or exposed to, or of materials contaminated by or exposed to, any such disease, wherever found and irrespective of ownership, under like or substantially similar circumstances, when such owner has complied with all quarantine regu-

lations, and said sum shall be immediately available for the purposes specified: *Provided*, That the payment for animals hereafter purchased may be made on appraisement based on the meat, dairy, or breeding value, but in case of appraisement based on breeding value no appraisement of any animal shall exceed three times its meat or dairy value, and except in case of an extraordinary emergency, to be determined by the Secretary of Agriculture, the payment by the United States Government for any animal shall not exceed one-half of any such appraisement.

The CHAIRMAN. I will say, the committee has provisionally inserted that.

Senator KENYON. Is that the House provision?

Secretary HOUSTON. No; it went out on a point of order. I will leave with the committee a memorandum covering the matter.

(The memorandum referred to follows:)

FOOT-AND-MOUTH DISEASE.

Page 120, line 24, strike out the words "an outbreak" and insert in lieu thereof "the existence."

Page 121, line 7, at the end of the line, insert a comma in lieu of the period and add the following language: "including the payment of claims growing out of past and future purchases and destruction, in cooperation with the States, of animals affected by or exposed to, or of materials contaminated by or exposed to, any such disease, wherever found and irrespective of ownership, under like or substantially similar circumstances, when such owner has complied with all quarantine regulations, and said sum shall be immediately available for the purposes specified: *Provided*, That the payment for animals hereafter purchased may be made on appraisement based on the meat, dairy, or breeding value, but in case of appraisement based on breeding value no appraisement of any animal shall exceed three times its meat or dairy value, and except in case of an extraordinary emergency, to be determined by the Secretary of Agriculture, the payment by the United States Government for any animal shall not exceed one-half of any such appraisement."

NOTE.—Similar language, excepting a few minor changes in phraseology and the provision limiting the payment by the United States for any animal to one-half of the appraisement, was included in the department's estimates and approved by the House committee. It was stricken out, however, on a point of order on the floor of the House and the words "an outbreak" were substituted for the words "the existence," in line 24. The provision limiting the payment for animals to one-half of the appraisement was inserted in the bill by the House committee.

The use of the words "an outbreak" serve to restrict somewhat the authority of the department. It is suggested that the original language be restored so that repressive measures might be taken in isolated occurrences of these diseases before an actual outbreak develops.

It is essential, of course, that provision be made for the payment of claims in connection with the purchase and destruction of animals affected by or exposed to, or of materials contaminated by or exposed to, the diseases covered by the paragraph.

In addition to the authority contained in the present bill, the language suggested provides that payment for animals hereafter purchased may be made on appraisement based on the meat, dairy, or breeding value, with the limitation that in case of appraisement based on breeding value no payment shall exceed three times the meat or dairy value.

Breeding value should be taken into consideration on the broad ground of equity and practical expediency. A fair return to owners undoubtedly would insure their cooperation with Federal and State authorities. In this connection it is of the utmost importance that prompt action be taken. A maximum limit also would tend to quick settlement. Under such a plan the requisite care would be taken by the department, and undoubtedly proper appraisements would be made.

Senator KENYON. But they had that same provision before the point of order was made?

Secretary HOUSTON. Yes.

Senator WARREN. The language which you have read is an amendment which I proposed last year to the bill, and the chairman and others thought that perhaps we had better add it this year. I have had my attention drawn by western people to the fact that for the reason that, while the farmers and growers of stock are paid for their losses, men buy up these cattle in bunches and it passes through the yards before the disease is discovered—claims are not paid. Can you give us any information about that, Mr. Secretary?

Secretary HOUSTON. I suppose you refer to the slaughtering of animals at the packing houses?

Senator WARREN. Undoubtedly, wherever it is discovered, whether it would be on the way or in the packing house. I did not go into all the particulars, but that claim is made quite generally to me.

Secretary HOUSTON. I think I sent a letter on that point either to the chairman of this committee or to the chairman of the House committee.

The CHAIRMAN. I do not think it came here, Mr. Secretary.

Senator WARREN. To finish my statement, I think that two or three words there—they are claimed to be what stands in the way. Here is an amendment that was forwarded to me that I will read:

Including the payment of claims growing out of past and future purchases and destruction, in cooperation with the States, of animals affected by or exposed to or of materials contaminated by or exposed to any such disease, wherever found and irrespective of ownership.

That seems to be the exact language with two or three words left out. And I remember—perhaps the chairman may not—that those words were put in, and I agreed to it, in the amendment which I offered last year, and which was adopted, and under which, I judge, if there has been any difficulty, the difficulty has arisen. I do not vouch for it; I only ask to have it considered.

Secretary HOUSTON. Some claims have been presented for animals suffering from this disease slaughtered at the packing plants. Under the meat-inspection act we do not pay for animals condemned on account of disease, and I think the complication arose because of this fact.

Senator WARREN. Of course, as you say, we do not pay for the diseased animals, and this payment here is *sui generis*; it is the case of foot-and-mouth disease and the necessity for killing. Is that because they do not comply with some of the regulations or simply because they are too far along to communicate the disease, or what is that distinction? You see, it reads: "Wherever found and irrespective of ownership," so I suppose it must come under that little qualification there.

Secretary HOUSTON. I know of no case where animals were condemned in the packing houses that would not, in the ordinary course, have been condemned under the meat-inspection act.

Senator WARREN. In that case would you consider it to mean that while the animal would be subject to foot-and-mouth disease and payment would be made accordingly before it got to the slaughterhouse, the slaughterhouse is the spot where responsibility for payment is relinquished and that it must come under the regular proceedings?

Secretary HOUSTON. Yes; and how could we do otherwise unless we were authorized to pay for any diseased animals condemned?

Senator WARREN. I am not entirely satisfied that you can, except that foot-and-mouth disease, I presume, would be foot-and-mouth disease wherever found.

Senator NORRIS. Would not the language, perhaps, be broad enough under the meat-inspection act or any other law?

Senator WARREN. It was so understood when we adopted it last year, and was entirely satisfactory, so far as I know, but these complaints have come up.

Senator NORRIS. There are a great many claims that have arisen in the past under this, are there not?

Senator WARREN. A great many have been turned down.

Senator NORRIS. But they would all be paid under this appropriation?

Senator WARREN. No; this appropriation is exactly like the other.

Senator NORRIS. And the other went out?

Senator WARREN. In the House, you mean?

Senator NORRIS. Yes.

Senator WARREN. It was in the law last year, and they are simply restoring it now.

The CHAIRMAN. The new point in this is the 3-to-1 basis of settlement in certain cases.

Senator NORRIS. Under that language why would not the man whose cattle were lost under the meat-inspection law be entitled to payment?

Secretary HOUSTON. The solicitor has ruled that animals slaughtered under the meat-inspection act can not be paid for under this special provision.

Senator NORRIS. Just from hearing it read, it seemed to me to be broad enough to cover everything.

Secretary HOUSTON. I think we should get into a great deal of difficulty if we began to pay for animals condemned under the meat-inspection act for the one disease, if we did not also pay for animals condemned for any other disease.

Senator WARREN. And, if I understand the situation, I think you assume that after the stock has got to the stockyards there might be some question arise there, and you want to keep it as close as you can. Of course, I have no interest in the stockyards.

Secretary HOUSTON. No; that thought is not in anybody's mind.

Senator WARREN. Complaints have come to me from those who have been caught between the farmer and the stockyards. I do not know whether there are many.

Secretary HOUSTON. So far as I am aware, in every case, other than those falling under the meat-inspection act, individuals have been reimbursed even though the animals were caught between the farmer and the stockyards.

Senator WARREN. But it is your view, isn't it, that although it may be foot-and-mouth disease, after it reaches the stockyards it is not reimbursable?

Secretary HOUSTON. Not exactly; but if animals were offered for inspection under the meat-inspection law and were found to have foot-and-mouth disease, the owners were not reimbursed. In some cases where animals in the stockyards were affected with or exposed to the disease they were slaughtered and the owners reimbursed.

These animals had not been offered for inspection under the meat-inspection law.

Senator WARREN. Then, in cleaning up the foot-and-mouth disease in the stockyards what is your method?

Secretary HOUSTON. As to payment?

Senator WARREN. As to payment. You do not pay; but in cleaning it up—

Secretary HOUSTON. We do pay in certain cases, as indicated. The stockyards comply with all the requirements of the quarantine of the State and of the Federal Government and pay for cleaning up.

Senator GRONNA. Is it not a fact that the stock may be in the stockyards and still not belong to the packers; that they belong to the shippers or the farmers, and they are inspected before they are killed?

Secretary HOUSTON. If the animals were not offered for inspection under the meat-inspection law and were diseased and slaughtered, the owners have been reimbursed. On the other hand, owners have not been reimbursed when the animals were offered for inspection and were condemned under the meat-inspection law.

Senator WARREN. It has not been tried out in court?

Secretary HOUSTON. No.

Senator WARREN. And have you any notice that it would be?

Secretary HOUSTON. Not so far as I am aware.

Senator WARREN. And it has not been passed upon by the Secretary yet?

Secretary HOUSTON. Yes; the solicitor's opinion has been acted upon.

Senator WARREN. Approved by you?

Secretary HOUSTON. Yes.

Senator WARREN. For instance, A. living in some western State, consigns his cattle to market. That is the way all larger growers do. The smaller growers sell to these buyers. The larger men nearly always consign them direct to some commission house in Chicago. Now, in a case like that, the cattle belonging to A, 500 miles from the stockyards, if they reach the stockyards before the disease is discovered, are they reimbursed?

Secretary HOUSTON. Yes.

Senator WARREN. You think that has been the practice?

Secretary HOUSTON. Yes.

Senator WARREN. I am going over this, Mr. Chairman, in order to be able to answer these letters and questions that have come to me rather than to find any fault with what has been done.

Secretary HOUSTON. I have personally had no special cases of the kind to consider, except a few involving animals suffering from the disease offered for inspection under the meat-inspection law. We can not reimburse for these; and there has been no pressure, so far as I am aware, in these cases.

Senator WARREN. I have had numerous letters from the secretary of the association here in Washington, but I have had more of them from people who were not connected there.

Secretary HOUSTON. I should be glad to consider such cases.

Senator WARREN. I have no interest in the matter at all except as a legislator. It is true I have interests in cattle, but I have never

had anything happen to me with any of them except in actually throwing out a case where they have had big jaw or something of that kind. I would be glad if I might have information about that and see what class of claims and how many have been refused.

Secretary HOUSTON. I shall be glad to send you information as soon as possible.

Senator WADSWORTH. Mr. Secretary, I want to ask you about this method of arriving at the value of dairy cattle in the case of foot-and-mouth disease. Under this proposed language the amount to be paid for the cattle and of which amount the National Government is to pay only one-half is to be limited to three times the meat value?

Secretary HOUSTON. The meat or dairy value.

Senator WADSWORTH. Do you not think that works a tremendous hardship on a man who owns a valuable registered herd?

Secretary HOUSTON. It may, in some instances; but on the other hand we shall have to guard against the tendency to overvalue animals. There are two sides to this matter. I think this is a very fair suggestion and, so far as I know, it seems to have met with approval. There are animals on which some owners naturally place a fancy value. The Government ought to be fair, dealing with the situation as competently as it can. There may be cases where some injustice may be done, but this is as just an arrangement as we have been able to devise for practical purposes.

Senator WADSWORTH. I know of instances, Mr. Secretary, where the foot-and-mouth disease was right at the border of a man's place, and on that place was a most valuable herd of Hereford cattle—Eldorado, Kans. It may not have been at the border of this man's farm, but it was all around him. His entire capital was invested in them; he had been building up the herd for years. The bulls which he sells are used as the heads of larger herds in the Southwest. I am speaking of Mr. Hazard—perhaps you have heard of his herd. If the foot-and-mouth disease had broken out amongst his herd and this valuation had been placed on them he would have been a ruined man.

Secretary HOUSTON. That is a dairy herd?

Senator WADSWORTH. No; a beef herd—Hereford. Do you think the department could not trust the appraisers to arrive at the actual value instead of placing artificial limits?

Secretary HOUSTON. Appraising cattle quickly in an emergency is a troublesome business.

Senator KENYON. Why should you not reduce the amount that is paid for the scrub? That would be just as just, because if you are going to pay at all you should treat them all alike. Now, where a man has a Hereford bull or a Shorthorn bull that he has paid perhaps \$500 or \$600 for and a man with a scrub bull for which he has paid \$100 or \$50, the man with the scrub animal is given the full value of his property while the other man is not. That may be all right, but I do not see what basis of justice there is.

Secretary HOUSTON. I do not think it is exact justice, but these appraisements must be made quickly in order that the cattle may be disposed of quickly, so as to prevent the spread of the disease.

Senator NORRIS. On the other hand, a man's fine stock or any other stock that gets the disease is practically worthless?

Secretary HOUSTON. Its value is impaired.

Senator NORRIS. There might be a serious question as to whether or not the Government ought to pay him anything. Suppose the man's herd is killed by lightning; the Government does not pay. Why should they pay when the animal gets foot-and-mouth disease? The Government is not to blame because the animal gets the disease.

Secretary HOUSTON. It is simply a matter of public welfare, and I suppose the owner in some cases must bear some part of the loss.

Senator RANDELL. I do not suppose the Government pays for animals that die with the disease; it is only when the Government destroys the animals to prevent the spread of the disease?

Secretary HOUSTON. When the Government slaughters them; yes.

The CHAIRMAN. Here is one point, Senator Kenyon. When we pay on the beef value, that is an ascertainable fact, but whenever you leave that basis and embark on the determination of the question of their value for breeding purposes that is largely a matter of opinion, and, to some extent, speculation. It is not certainly so reducible to an absolute standard.

Senator KENYON. With respect to the beef value, Mr. Secretary, people do not want to buy cattle with foot-and-mouth disease. You take into consideration the diminution in beef value because of the fact that the animal has foot-and-mouth disease?

Secretary HOUSTON. No; they are killed and their estimated beef value is the basis of payment.

Senator KENYON. But the beef value of an animal that has foot-and-mouth disease would not be the same as the beef value of a healthy animal.

Secretary HOUSTON. We value it as if it were a healthy animal.

Senator WARREN. Would you propose to pay for a beef animal three times its value?

Secretary HOUSTON. No; that is for a breeding herd. We have not heretofore been able to take breeding value into consideration; we have paid on the beef value or the dairy value, and we have had a great deal of trouble. We have had more trouble, of course, in making appraisements on the dairy value than on the beef value. In the case of the show herd at Chicago it took us a number of months to make the appraisalment. We had to get all the records they had; some did not have any records. It took the owners three or four months to furnish us the records, and then they were incomplete. It took the best men we could get—men like Prof. Eckles, of Missouri, and Mr. Rawl and Mr. Bell, of the department—a very long time to arrive at an appraisalment of the dairy value of those cattle.

If we go into the breeding value, which is still more difficult to determine, we should get into a good many complications if there is no limit. We have to act quickly when we find a diseased herd, in order to save many other herds. If we have to enter into a prolonged debate we shall defeat the very purpose in view.

Senator GRONNA. Is it not true you may find a small herd of cattle where only one or two might be affected, and you would have to slaughter the whole herd?

Secretary HOUSTON. It is.

Senator GRONNA. And in that case the owner is certainly entitled to pay. Now, we are using the same standard, under the language proposed by the Secretary, in paying for the cattle. Of course, I

realize that a man who has fancy stock would lose, but I can not see how it would be possible for any expert to tell the real value of that fancy stock. That is largely in the mind of the man who raised it.

Senator NORRIS. It seems to me, after all, it must necessarily be a sort of compromise. That is the reason they are taking three times the value.

Senator GRONNA. Yes; because if the Government takes the real value of these slaughtered cattle the man can not lose anything.

Senator WARREN. If we had very much of this disease, enough so that breeders would not go on with their business, the whole cattle industry would suffer terribly. But how to fix it—I don't know but what the Secretary has the right plan; perhaps not.

Secretary HOUSTON. I do not think there would be many instances of considerable loss.

Senator WARREN. It seems to me that two or three cases of owners you have had trouble with would probably lead the way to approaching another case, so that you could get at the real value. This thoroughbred stock has not the same every-day market that beef has, but still the market can be established by sales and purchases and men interested in buying and selling that class of stock.

Secretary HOUSTON. We have found a great deal of difficulty in the case I spoke of a moment ago—Mr. Baker's.

Senator KENYON. The State paid him on a different basis, did it not? The State of Illinois paid him on the breeding value?

Secretary HOUSTON. Yes.

Senator WARREN. Undoubtedly you have more trouble. The question is, how much the man ought to stand that owns the cattle and how much the Government ought to stand. We ought to divide that somewhere.

The CHAIRMAN. After all, this is merely a matter of generosity on the part of the Government.

Senator WARREN. We ought not to pay a dollar more for beef than it is worth.

The CHAIRMAN. We are taxing the people everywhere a little in order to keep these people from suffering greatly as they would if we should slaughter their stock without any compensation at all. It has to be a matter of compromise.

Secretary HOUSTON. In most cases I should say it is a full payment.

The CHAIRMAN. Now, Mr. Secretary, my colleague offered a bill, and I have converted it into an amendment to this appropriation bill, in relation to a claim on the part of Mr. Blair. Are you familiar with that claim? It is a case where cattle were dipped, and 59 of them died from the dipping. I do not know whether it has come to your attention or not.

Secretary HOUSTON. Yes; I sent a report on this matter to the House Committee on Claims. The report was based upon a very careful and detailed inquiry as to the facts.

The CHAIRMAN. There is a report here of an \$18,000 loss.

Secretary HOUSTON. This report is before the House Committee on Claims, Senator.

The CHAIRMAN. The bill is here, and I have offered it as an amendment. I was wondering whether you had intimate knowledge of it.

Secretary HOUSTON. I had the facts in my mind at the time; I have not now.

Senator WARREN. Won't you have some trouble on the floor with that as a claim?

The CHAIRMAN. I do not know, Senator. All they can do is to put it out. It is somewhat akin to these foot-and-mouth disease payments. I felt that where a loss occurred on account of the incompetency of a Government agent, where the agent admitted the loss, the party ought not to be subjected to the expense of litigation in the Court of Claims.

Now, an amendment has been tentatively agreed to, appropriating \$50,000 for the disease of contagious abortion. Have you any recommendation to submit on that, Mr. Secretary?

Secretary HOUSTON. Yes. I think, Mr. Chairman, it would be a very good thing if additional provision were made for the study of this disease. I suggest that on page 14, line 6, of the House bill you change "\$88,020" to "\$138,020," an increase of \$50,000; strike out the semicolon and add the following proviso:

Provided, That of said sum \$50,000 may be used for researches concerning the cause, modes of spread, and methods of treatment and prevention of the disease of contagious abortion of animals.

I will leave with the committee a memorandum on the matter.
(The memorandum referred to follows:)

CONTAGIOUS ABORTION OF ANIMALS.

Page 14, line 6, change "\$88,020" to "\$138,020," an increase of \$50,000; strike out the semicolon and add the following proviso:

"Provided, That of said sum \$50,000 may be used for researches concerning the cause, modes of spread, and methods of treatment and prevention of the disease of contagious abortion of animals."

NOTE.—On May 12, 1916, I transmitted to the chairman of the committee a letter suggesting that these changes be made in order that the department may enlarge its work upon the disease known as contagious abortion. This disease exacts a toll of approximately \$20,000,000 annually from the live-stock industry of the country. The infection is not only very prevalent in dairy sections, but has also spread to range cattle in the western and southwestern sections, so that at the present time no State is free from this trouble. The disease is caused by a specific infective agent. It is a very insidious disease, and as it does not markedly affect the health of the individual female its presence may not be recognized until the infection has extended throughout the herd. Efforts have been made to discover some medicinal agent which would cure infectious abortion, and attempts have been made to produce a serum. This work, however, is still in the experimental stage, and no reliable curative agent has yet been discovered. Our main reliance, therefore, must be placed upon a careful and repeated disinfection of premises and of animals, together with separation of the healthy from the diseased stock.

During the present fiscal year the department is devoting approximately \$11,100 to work upon this disease. It is believed, however, that at least \$50,000 can be expended efficiently during the next fiscal year with a view to work out a method or methods by which the serious losses may be materially reduced or entirely eliminated.

It is also recommended that the sum of \$11,100 now being used in connection with contagious abortion be retained in the appropriation for use on other diseases, such as tuberculosis, hemorrhagic septicemia and anthrax. The department has recently been experimenting with a vaccine for hemorrhagic septicemia, a serum of anthrax, and new methods of diagnosing tuberculosis, and it is desired to perfect these methods as early as possible. Greater progress can be made in this direction by taking the money now being used for contagious abortion and using it for the study of the above-mentioned and other

contagious diseases that may assume grave importance during the coming fiscal year.

It is hoped that the Senate committee will see its way clear to adopt these suggestions.

The CHAIRMAN. We have tentatively agreed to the amount and called on the department for the language.

Secretary HOUSTON. You perhaps have the estimate of the department. It is approximate.

Senator PAGE. What was the estimate, Mr. Secretary?

Secretary HOUSTON. An increase of \$50,000. The department experts estimate that this disease is costing the Nation many millions of dollars—roughly \$20,000,000. The affection is prevalent not only in the dairy sections but also on the range, and at present there is not a State in the Union entirely free from the trouble.

The CHAIRMAN. There is one question I wanted to ask you, Mr. Secretary, and that is as to the expediency of pushing the extermination of the fever tick as rapidly as possible. The States and localities, as I understand, make contributions?

Secretary HOUSTON. To the extent that the States are in a position to do their part I think we ought to increase our activity. It is not a question of an indefinite continuance of an appropriation. I assume that, if we can push the work more vigorously, we shall in the aggregate spend less money than if we work over a longer time. Incidentally I think we save money to the cattlemen, the farmers, and all those interested in the cattle industry.

There is one change I should like to suggest in the House bill. On page 13, line 5, add to the paragraph for tick eradication the following:

And provided further, That of the total amount appropriated by this paragraph \$35,000 shall be immediately available.

In a letter to the House committee, the department suggested that a proviso be attached to the appropriation for the eradication of the cattle tick, making \$75,000 immediately available. The House committee approved the department's recommendation and included such a proviso in the bill, but it was eliminated on a point of order, on the assumption that the Agricultural bill will not become a law until June 1 or later. As the year is drawing to a close, I think it would be satisfactory if only \$35,000 were made immediately available. Then, if the increase in the appropriation is allowed, we shall be in a position vigorously to prosecute the work.

I have a memorandum regarding the matter which I will leave with the committee.

(The memorandum referred to follows:)

TICK ERADICATION.

Page 13, line 5, add to the paragraph for tick eradication the following:

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It is very desirable that at least \$35,000 be immediately made available upon passage of the appropriation bill, even though it does not become law until some time in June, in order that the tick eradication work may be carried on without interruption during the last few weeks of the present fiscal year on the same basis as it is proposed to conduct it during the fiscal year 1917. The most effective work in connection with the eradication of ticks is accomplished during the summer months. Unless \$35,000 is available before the close of this fiscal year the work of the present session will be somewhat handicapped.

Senator SMITH of South Carolina. As I understand it, none is allowed now?

Secretary HOUSTON. It went out on a point of order.

Senator SMITH of South Carolina. So you have none immediately available?

Secretary HOUSTON. None; except the current year's appropriation.

Senator SMITH of South Carolina. You have none that would be immediately available?

Secretary HOUSTON. None of the increase; no.

Senator WARREN. It certainly ought to be made available if they are short of funds.

Senator NORRIS. I would like to ask about a lump appropriation here, if the Secretary knows about it. It is on page 40 of the House bill, Mr. Secretary, lines 9 to 12. Here is a lump-sum appropriation of \$30,000 to reseed forest reservations. Do you know how that lump sum is divided up, where it was used, and how?

Secretary HOUSTON. I suppose that was fully discussed in the hearings. I do not carry it in my mind, Senator.

The CHAIRMAN. We had expected to have Mr. Graves come up here and discuss that in advance of your coming.

The next thing I have in mind of considerable importance relates to the construction of the plant to experiment with the production of potash from kelp. The committee has tentatively agreed upon an appropriation of \$150,000 to enable the department to conduct experiments of that sort. I would like to have your views as to the expediency of that.

Secretary HOUSTON. That, then, was offered on the floor of the House as a committee amendment.

The CHAIRMAN. It was; yes, sir.

Secretary HOUSTON. And went out on a point of order.

The CHAIRMAN. Yes, sir.

Secretary HOUSTON. We suggested the inclusion of an item of \$175,000 to make the experiment. The committee knows of the work the department has done on the kelp along the Pacific coast, extending from Alaska down to southern California. It also knows that we have devised a method for extracting the potash from the kelp. The difficulty is that we do not know yet whether it can be extracted profitably on a commercial scale.

Senator WARREN. I wanted to hear something about that.

Secretary HOUSTON. There are private companies at work. They are producing some materials and beginning to sell to the chemical industries. These companies are not primarily interested in other aspects of the problem, and we have no evidence that they are able to produce the materials on a commercial scale profitably under normal conditions. It is a very important matter. We are dependent, as you know, on Germany for potash, and, in view of the need

of potash for the munitions, fertilizer, and other industries and because of the large amount of raw material off our coast, it seems to me we can well afford to spend \$175,000 to discover whether we can secure the products on a commercial scale profitably.

Senator WARREN. It is a sort of lake, is it not, where it renews itself?

Secretary HOUSTON. It is in the ocean, along the coast. This is a weed—a very long weed. I do not know what is the extreme length of it. You can cut it about 6 feet under the water, and in some places it is so dense as to form a sort of breakwater. I think there is no doubt about a permanent supply of it. Some varieties renew themselves in about three months.

Senator SMITH of South Carolina. In your department laboratory you have determined that it is rich in potash?

Secretary HOUSTON. Yes.

Senator WARREN. You think it would renew itself time after time?

The CHAIRMAN. It does in the warm waters of the southern part of California very rapidly.

Secretary HOUSTON. It is simply a question, gentlemen, whether the Government wishes to make this experiment. I can not guarantee that we can show it can be produced profitably in competition with Germany in normal conditions; but our experts are inclined to think it can be, especially if we can use the Panama Canal to get it around to the eastern coast.

The CHAIRMAN. Now, as to the feldspar, is there not some hope of making potash from that?

Secretary HOUSTON. I think that is more remote.

The CHAIRMAN. Gentlemen, are there any other items, before taking up the riders, that any member wishes to call to the attention of the Secretary? I think we should finish them.

Senator RANDELL. I would like to ask the Secretary, Mr. Chairman, about an amendment that I had as to the investigation of methods of wood distillation, for timber testing, etc. I proposed in my amendment to add \$75,000, Mr. Chairman, to the item that was carried in the former bill. I believe that was \$140,000. It is on page 40, lines 1 to 8. My amendment would change the wording a little on line 8: After the words "in the use of forest products" add "and for commercial demonstrations to improve methods or processes in co-operation with individuals and companies;" \$215,000, instead of \$135,200.

I would like to ask the Secretary what he thinks about that proposition. I have a letter from the Forester addressed to me, and I think the Secretary made some report of that sort, too.

Secretary HOUSTON. Yes; I made a report on it to the Senate committee. There is no question, I think, Senator, that there is a problem to be worked out. It would be worth while to see whether on a commercial scale we can solve it.

Senator RANDELL. The only thing we want to ask you about is this: We have some correspondence from several parties in Mississippi saying that they are making paper out of pine timber and doing it successfully. I wanted to know whether that was not probably because of the very high price of paper brought about by the war and whether it has been thoroughly demonstrated in your opinion

that paper can be made commercially profitable out of that waste product of the southern pine?

Secretary HOUSTON. The price of kraft paper in the eastern markets before the war was \$70 per ton. In February, 1916, it was \$110 a ton. The Forest Service thinks it would take about two years to complete the demonstration of kraft paper manufactured from southern pine and that this ought to be followed by a demonstration with Douglas fir.

The CHAIRMAN. Is the department conducting these experiments now?

Secretary HOUSTON. Yes; but on a small scale; it has not the funds to conduct the work upon a large scale.

Senator RANDELL. Mr. Secretary, is it not a fact that there are other papers besides kraft paper that can be made out of that product?

Secretary HOUSTON. Yes.

Senator RANDELL. So far as making kraft paper out of the materials is concerned, there is no question on earth about that. That was settled long ago.

Secretary HOUSTON. I think there is little doubt that it is commercially feasible.

Senator WARREN. It is used in a chemical way. Extracts can be had from the timber, and in the State colleges they are working upon that.

Secretary HOUSTON. You know we have the Forest Products Laboratory at Madison which is doing most of this work and doing it very successfully.

Senator WARREN. Does that come under the appropriation?

Secretary HOUSTON. The proposal is to increase the item from \$135,200 to \$215,000. Mr. Graves says in his memorandum to me that the project of greatest immediate importance is to demonstrate commercially that an excellent grade of kraft paper can be made from the waste of southern pine lumber operations. This waste is estimated to be sufficient to produce approximately 20,000 tons of paper per day. The completion of the southern pine demonstrations, which would probably require at least two years, should be followed by similar demonstrations for Douglas fir. Laboratory results so far secured indicate that fir also is suitable for making an excellent grade of kraft paper.

Senator WARREN. What about the sawdust from the mills out in Washington and Oregon? Has there been any results obtained from that?

Secretary HOUSTON. The Forester reports that tests indicate the possibility of using, in the manufacture of asphalt shingles, a part of the 20,000,000 cords of bark annually wasted, and that the manufacture of certain kinds of wall paper from some of this material awaits only the demonstration of its commercial practicability. Laboratory methods have shown the possibility of reductions in the loss of kiln-drying western larch, which, if generally applied, would result in a saving on the present annual cut of at least \$160,000 per year. Commercial demonstrations are needed for a full determination.

The CHAIRMAN. Is there not an estimate submitted there by the Forester of the amount necessary to carry that on?

Secretary HOUSTON. There has been submitted an estimate of \$140,000 for forest-products investigations, but the funds would not permit these commercial demonstrations on the requisite scale. There are several directions in which they wish to make demonstrations.

The CHAIRMAN. Is there anything further on that, Senator Ransdell?

Senator RANSDALL. I just wanted to ask the view of the Secretary. If we are going to have Mr. Graves with us, I will go into detail with him. I do not wish to bother the Secretary with details, but it is a matter of very great importance, in my judgment, and I would like to have the privilege of asking Mr. Graves some questions before we pass from it finally.

Secretary HOUSTON. I have here, Mr. Chairman, a full memorandum from Mr. Graves, which gives the information I transmitted to the committee. It sets forth the things which the service would undertake to investigate or demonstrate.

(The memorandum referred to follows:)

The Forest Products Laboratory of the Forest Service, located at Madison, Wis., is conducting a large number of investigations bearing directly upon improved methods of manufacturing forest products and more complete and profitable utilization of all parts of the tree. These include, for example, investigations in the manufacture of pulp and paper from many different species of timber and from the ordinary forms of waste now occurring in the manufacture of lumber, such as slabs and edgings, stumps and limb wood; etc. Other investigations have taken up the manufacture of chemical by-products from waste and from woods of low commercial value for other purposes, such as the extraction of rosin and distillation of wood turpentine from southern yellow pine, the manufacture of wood alcohol and acetate of lime from hardwoods, and the manufacture of ethyl alcohol from sawdust of various species. Other investigations have dealt with the scientific seasoning of lumber, and intensive studies of the mechanical and physical properties of various species.

In many of these investigations results have been accomplished which are of very great promise to the forest-using industries, both in reducing the costs of present methods and in developing processes whereby material now wasted or of very low value can be utilized at a profit. For example, the laboratory has made on its paper machine excellent kraft paper from southern yellow pine, equal to the best grades of imported kraft papers; it has developed methods which give promise of a solution of the difficulties of bleeding and swelling encountered with treated wood block pavement; it has worked out a type of dry kiln in which lumber can be seasoned with much less loss than is common in commercial practice; it has developed improvements in the process of hardwood distillation whereby the yields of valuable products may be substantially increased; and it has drafted new grading rules for structural timbers which have received the indorsement of and are now in use by the leading lumber and engineering associations. The foregoing will serve as a few illustrations of a wide variety of investigations which have given results of much economic value.

These results should be made available to the forest-using industries of the country by practical demonstration under commercial conditions. It is fully recognized that results obtained under laboratory conditions may not be attained profitably with the large scale operation and less exact control of apparatus, temperatures, etc., necessary in the commercial field. I do not regard the work of the Forest Products Laboratory, therefore, as complete until the results of its experiments have been demonstrated under commercial conditions. Not only will such commercial demonstrations establish the final value of the research work to forest-using industries, but they will make known our work to the trade much more effectively than would be possible in any other manner. The importance of such demonstrations is yearly becoming greater because the investigative work is rapidly progressing and developing. Such commercial demonstrations as are possible with the limited facilities and funds available for such work are, of course, now being made. These demonstrations, however, are

wholly inadequate to meet the needs of the forest-using industries of the country; and I feel that it would be most desirable to enlarge the effectiveness of the investigations in forest products by making special provision for their commercial application and demonstration.

I believe that the desired results can be accomplished by arranging for the commercial demonstration of improved methods of utilizing wood in cooperation with established industrial plants. Such cooperation would contemplate an arrangement between the Government and an operator whereby the facilities of the latter would be made available for a commercial test of a process having commercial promise, under such conditions as to the compensation for use of the equipment and labor of the plant concerned as may be equitable in each case. In many instances certain special apparatus would have to be installed, which might properly be done at the expense of the Government. In other cases compensation must be provided for the derangement in the regular operation of a plant or for losses occasioned by experimental tests which do not yield salable products.

That you may have a more concrete understanding of the nature of these suggested commercial demonstrations, I enumerate below a number of these of the greatest immediate importance.

1. *Kraft wrapping paper from southern pine.*—In my judgment this stands first and is of the most immediate importance. The waste incident to the production of southern pine lumber is of sufficient quantity to produce the enormous amount of approximately 20,000 tons of paper per day. Laboratory experiments have determined the suitability of this material for the manufacture of kraft wrapping paper by the sulphate process and it now only remains to determine to what extent the laboratory results are applicable on a commercial basis. When it is considered that but 1½ cords of southern pine are required to make 1 ton of this paper, as compared to 2 cords of spruce (the wood chiefly used at present), and that spruce for this purpose now sells for from \$9 to \$13 per cord, the economic importance of the work is evident. It is of further interest to note that much of this paper was formerly imported from European countries and sold in the neighborhood of \$70 a ton, as compared to the present selling price of approximately \$110 per ton. There are at the present time three operating plants in the southern pine region which are manufacturing pulp and paper products from southern pine. Arrangements could doubtless be made with one or all of these establishments for commercial demonstrations of the experimental results obtained at the Forest Products Laboratory. Under such conditions it would probably be necessary for the laboratory to install special digesters and other equipment, at a cost of probably \$35,000, and to provide \$15,000 to \$20,000 annually to carry on the work. Aside from the production of wrapping paper, the pulp has exceptional possibilities for use as container board, and this would, of course, open a much wider use for the product.

To satisfactorily complete the work involved in the development of these two products would probably require at least two years' work and possibly a greater length of time.

2. *Kraft wrapping paper from Douglas fir.*—What has been said of the possibilities of southern pine is largely applicable to Douglas fir. While the laboratory experiments with this species have not progressed to the same point as with the southern pine, the indications are that Douglas fir is also well adapted for production of kraft paper, and subsequent to the completion of the suggested work on pine it would be my idea to utilize the experimental equipment secured for this purpose in similar work in the West with Douglas fir. Wrapping paper in this territory is at present secured from either western paper mills using sulphite pulp or from eastern and European mills supplying either sulphite or kraft wrappings. In the latter case it is, of course, necessary for the western consumers to pay freight charges amounting to about \$15 per ton.

3. *Utilization of waste bark.*—The total amount of bark annually cut amounts to approximately 20,000,000 cords. Under existing conditions, by far the greater proportion of this material is not utilized in any way, although a certain proportion of it has a value for fuel ranging from 50 cents to \$1 per ton. Investigations at the Forest Products Laboratory, with a view to developing some utilization of this material have met with gratifying success. The suitability of this material for the production of a cheap board suitable for use in the manufacture of asphalt shingles has been tentatively indicated, and one manufacturer has signified that he could use at least 1,000 tons per month, provided a commercial demonstration proved successful. The development of this

work to a final satisfactory commercial basis would result in an increase in the industrial wealth of the country of at least \$2,000,000 per year.

Further investigations have indicated the suitability of certain kinds of bark for use in the manufacture of a wall paper and the final development along this line would result in wide development for the utilization of the bark now of practically no value.

4. *Kiln-drying western larch.*—Western larch is a species occurring not only in large quantities in the Northwest but the national forests alone contain approximately 11,000,000,000 feet of this species. Heretofore, due to difficulties in seasoning without excessive checking, warping, etc., the species has not received the commercial recognition which many of its intrinsic properties would seem to justify. Experiments at the laboratory have developed a method for the satisfactory kiln-drying of this species. It now remains to demonstrate this to the lumber manufacturers in the Northwest who are in a position to handle western larch. It is of interest to note that the present annual cut of lumber of this species amounts to approximately 400,000,000 feet, at a total value of approximately \$4,000,000, and that the adoption by the manufacturers of methods which would insure satisfactory kiln-drying would not only result in an increased utilization of this species but in a direct saving in prevention of loss while drying of at least \$160,000 per year.

5. *Improvements in process of destructively distilling hardwoods.*—It is this industry that supplies the country with wood alcohol, acetate of lime, and charcoal. It consumes annually over 1,000,000 cords of wood, valued at approximately \$3,150,000, and produces products valued annually at \$10,000,000. Laboratory tests have developed a method, involving practically no outlay for additional apparatus or material and no increase in the time of operation, which has increased the yields of alcohol 25 per cent and of lime 10 per cent. Universally applied this would mean an annual increase in value from the raw material of approximately \$1,150,000.

6. *Development of method for the prevention of sap stain in lumber.*—A conservative estimate places the depreciation in value of lumber due to sap staining at \$7,000,000 annually. Laboratory tests with sodium fluoride have shown the value of this chemical as a sap-stain preventative and its superiority to sodium bicarbonate, which is the material at present in most general use. It remains to demonstrate the effectiveness of the use of this new chemical on a commercial basis.

7. *Improved methods for the treatment and laying of wood-block pavements.*—The annual expenditures for the installation of treated wood-block pavements approximates at the present time \$2,000,000. Difficulties, however, are still encountered with this type of pavement, due to a tendency for the preservative to "bleed," or ooze from the block, during warm weather and for the blocks to swell during wet weather. Investigations at the laboratory have dealt with these difficulties, and a method of treatment has been developed which, from present indications, will overcome them. Commercial application of these results, involving the treatment of blocks at a commercial plant and the installation in cooperation with some municipality of experimental pavements, are needed to conclusively establish the value of the work.

8. *Grading rules for southern-pine structural timbers.*—For some years there has been a growing confusion on the part of engineers, architects, and other users of structural timbers as a result of the large number of different grading rules that have been currently in use in the country. Not only have the lumber associations adopted rules for the purpose of classifying the lumber manufactured by their members, but the railroads and other organizations purchasing appreciable quantities of structural timbers have also frequently had their own specifications. This wide variety of rules has made it difficult for the purchaser to properly select material.

There has therefore been a distinct need among consumers, as well as manufacturers, for the development of grading rules, for the more important species used as structural timbers, based on fundamental knowledge and principles. The laboratory has conducted many thousands of tests on the mechanical properties of the commercial woods of the United States and has now developed grading rules for southern-pine structural timbers which have been adopted by such organizations as the Southern Pine Association and the American Society for Testing Materials. Similar work is now under way with Douglas fir and hemlock, and it is expected that it will be possible to draft rules relating to these species. The mere completion of a proposed rule and its adoption by one or more societies and associations does not, however, satisfactorily meet

the conditions, and in order that this phase of the work be satisfactorily completed it is essential that a clear understanding of the rules and their methods of application be demonstrated to manufacturers and large consumers.

From the foregoing it is quite evident that, while the proposed commercial demonstration of the suitability of southern pine for the production of kraft paper is of most immediate importance and will require for its satisfactory completion not only the greater proportion of the increased appropriation covered in Senator Ransdell's amendment during the first year but a considerable amount during at least one or more other years, there are many other opportunities for valuable commercial demonstrations of this nature in various portions of the country. To satisfactorily carry these out will require additional expense in the nature of salaries for increased personnel, travel, and equipment, the need for which will continue from year to year.

Senator RANSDOLL. I have a letter from Mr. Graves speaking of that and one or two other points. I will not take up the time further.

The CHAIRMAN. It is known as the Ransdell amendment.

Senator RANSDOLL. I understand I will have a right to bring Mr. Graves here on that proposition?

Senator JOHNSON of South Dakota. Mr. Chairman, there is a small item on page 119 of the appropriation bill, appropriating \$40,000, which I understand the disposition of the subcommittee is to eliminate.

Secretary HOUSTON. Which is that?

Senator JOHNSON of South Dakota. That is on page 119, experiments in dairying and live-stock production in semiarid and irrigated districts of the western United States. I just want to say to the committee that I am not well posted on this matter further than to say that it is a meritorious piece of legislation. It affects the States of Nebraska, Montana, South Dakota, and, I think, other States, but I am not familiar with what that is. This is an amendment to the appropriation for experimenting in feeding of stock on the dry feed that we raise in those States. It is a small appropriation and I think a very worthy one, and I certainly hope that this committee will consider it favorably. I understand that the Secretary has recommended it, and I will be very glad if you will give that some consideration.

Secretary HOUSTON. Mr. Chairman, this is an item which I proposed last year and also this year.

The CHAIRMAN. Permit me to say that it went into the bill as it passed the Senate and went out in conference. I think that is the history of it.

Secretary HOUSTON. Yes. I am very anxious to see the work undertaken. I am especially interested in anything which may increase the meat supply of the country and improve agriculture in the semiarid and irrigated sections. Irrigation agriculture is by the very nature of the case intensive agriculture, and intensive agriculture, to be profitable, needs either near-by markets or perfection of marketing machinery. I think the urgent problem confronting people in the semiarid and irrigated sections is that of marketing. To be marketed profitably, their products must have a high value in relatively small space. Our experts seem to think that crops must be marketed through live stock and therefore that the foundations of a live-stock and dairy industry must be laid. I think the farmers need assistance, and that the amount asked for is reasonable. We wish to do the work at five stations. I think the whole business of

the handling of irrigation projects has been too largely engineering and too little agricultural and that agriculture is now the big end of it.

Senator WARREN. The engineering has taken a very large portion of the expenditures and naturally precedes the other.

Secretary HOUSTON. Certainly.

Senator WARREN. Then we have had all the mistakes and failures of lack of experience in education, and that is passed now?

Secretary HOUSTON. Yes; or passing.

Senator WARREN. So far the market has been largely confined to raising of alfalfa for the live stock, which of course goes in the right direction to raise beef. Now, however, in some portions of that section they are beginning to put up mills to concentrate it and ship it out, but in the old countries, where they have a big market, they go in for fruits, nuts, and vegetables, where 10 acres will do as much as 150 would in alfalfa.

Secretary HOUSTON. Yes.

Senator WARREN. I think we can say it is extremely important, and that in the future agriculture in this country rests very largely in irrigation. Even in some of these older States they can use water to good advantage.

Secretary HOUSTON. Yes; in some sections.

Senator SHAFROTH. I want to ask if we are not through with this matter?

Secretary HOUSTON. May I say just a word?

Senator SHAFROTH. Certainly.

Secretary HOUSTON. I will leave this memorandum with the committee, if I may. I shall not take up time reading it.

The CHAIRMAN. Yes, sir.

(The memorandum referred to follows:)

DAIRYING AND LIVE-STOCK PRODUCTION IN SEMIARID AND IRRIGATED DISTRICTS.

Page 119, line 14, after the words "United States" insert the following: "including the purchase of live stock, the erection of barns and other necessary buildings."

Page 119, line 16, change "\$40,000" to "\$87,500," an increase of \$47,500.

NOTE.—An item carrying an appropriation of \$87,500 for live-stock and dairying work on semiarid and irrigated lands of the Western States was proposed in the estimates for the fiscal year 1916 but was not allowed. A similar estimate was included in the department's estimates for 1917, but was disallowed by the House committee. An amendment, with the identical language, but with the amount reduced to \$40,000, was proposed on the floor of the House, but was stricken out on a point of order. A substitute amendment was then proposed, with the words "including the purchase of live stock, the erection of barns and other necessary buildings" eliminated. This amendment was agreed to.

The chief efforts of the department in the past in the development of agriculture in the semiarid and irrigated districts of the country have been in the direction of improving crop production. Methods have been developed at the department's field stations in these regions, which make possible the production of forage crops and grains, but such crops are not marketable to advantage for the reason that in most cases there are no near-by cities and the local demand for such products is quite limited. In order to profitably utilize these crops and also the natural grazing areas that are available and to develop an economically sound agriculture for the region, it is essential to encourage live stock production in these sections. The department is prepared to undertake investigations and experiments at several of its field stations in the semiarid and irrigated districts of the West, looking to the eventual establishment of

proper methods of feeding, with the object of profitably disposing of field crops through the development of a live-stock industry as a feature of dry-land and irrigated agriculture.

The restoration of the language authorizing the purchase of live stock and the erection of barns and other necessary buildings is essential to the proper conduct of the work. It is impossible to carry out the investigations and demonstrations planned with \$40,000. After the most careful consideration by a committee representing the bureaus concerned, the conclusion was reached that at least \$87,500 will be required. The Great Plains area of the United States represents an agricultural unit of approximately 500,000 square miles. The department is strongly of the opinion that the investigations contemplated should be inaugurated at not less than five stations in this area in order that the problems involved might be attacked under the different conditions that exist in the different parts of this region. Each of the five stations at which it is planned to conduct the work represents a different combination of soil and climatic conditions and a different combination of crops. The results obtained from the work at these five stations would be of proportionately greater value than those obtained if the work were limited at two, or at most three, stations, as would necessarily be the case if the appropriation is limited to \$40,000.

It is urgently recommended that the suggestions herein made receive the favorable consideration of the Senate committee.

Secretary HOUSTON. You are aware that the House struck out the language suggested and inserted other language, which does not seem to me to give the necessary authority.

The CHAIRMAN. In what connection?

Secretary HOUSTON. The item relating to dairying and live-stock production in semiarid and irrigated districts, \$87,500. I am suggesting that, on page 119, line 14, there be inserted, after the words "United States," the following: "including the purchase of live stock and the erection of barns and other necessary buildings," and that the amount contained in the House bill be changed from \$40,000 to \$87,500. I need not go into it further. The amendment covers the thought I presented a moment ago.

Senator GRONNA. Was it estimated for before?

Secretary HOUSTON. It was estimated for not only this year but also last year.

Senator WADSWORTH. Does that contemplate two separate branches, in the irrigated lands and in the semiarid lands?

Secretary HOUSTON. Yes.

Senator WADSWORTH. Do I understand that in the semiarid investigations and demonstrations the department contemplates investigating the methods of feeding cattle in the semiarid regions?

Secretary HOUSTON. Yes.

Secretary WADSWORTH. And dairy cattle?

Secretary HOUSTON. Yes.

Senator WADSWORTH. Do you not think they have pretty nearly learned that?

Secretary HOUSTON. I do not think they have learned it all.

Senator WADSWORTH. I have seen cattle in the semiarid regions fed on alfalfa silage; also dairy cattle. The irrigated regions are entirely a different problem and much newer. But it strikes me from the thousands of silos going up in western Kansas and Oklahoma, western Texas, northwest Texas, and Colorado that those men have nearly solved the problem in the semiarid regions.

Secretary HOUSTON. Yes; much has been done, but I think there is a great deal more to be done, especially in directing attention as to

how best to market products. We should do the work both in the semiarid and the irrigated sections.

Senator WADSWORTH. I can understand very well how those States have special difficulties, because surrounded by special conditions. I was very much impressed myself at seeing the enormous strides which have been made in the last five or six years in what might be termed the intensive feeding of cattle in the semiarid regions. Right in the middle of the range country they were commencing to use kafir corn, sorghum, milo maize, and feterita—to literally feed thousands of cattle, where before everything had to live on the prairie grass.

The CHAIRMAN. You can see silos from the car windows all over that country.

Senator JOHNSON of South Dakota. Mr. Chairman, the feed that is raised in those sections is almost worthless for market unless it can be fed up.

Secretary HOUSTON. Yes; I should think so.

Senator SHAFROTH. Mr. Secretary, if you are through with this amendment, I want to present to you a matter concerning which I have talked to Mr. Evans. Down in Porto Rico they want a sub-experiment station having to do with the growth of fruit trees, tropical and others, and they introduced a bill in their legislature down there making an appropriation for lands and buildings, tools and implements, and necessary live stock, and they want cooperation upon the part of the Government. I have offered an amendment of \$10,000 to the Porto Rican provision, which is \$40,000, and making a condition with respect to it, and I will read the amendment, so you can get the full grasp of what I am trying to do. After the word "Porto Rico" in the twenty-fourth line, page 64, strike out the figures "\$40,000" and insert in lieu thereof the following [reading]:

\$50,000, of which \$10,000, or so much thereof as may be necessary, shall be used for the maintenance of a substation for the introduction, propagation of, and experiment with tropical and other fruit trees, in the event the Porto Rican Government establishes the substation on at least fifty acres of land, with buildings, tools, implements, live stock, and so forth, as may be necessary.

I talked with Mr. Evans, and he said that the experiment station at Porto Rico had not been placed in the very best section of the country for fruit, and he seemingly had no objection whatever to this. The Porto Ricans come to me because I am chairman of the Committee on Pacific Islands and Porto Rico.

Secretary HOUSTON. That matter has not been brought to my attention, Senator. I have no knowledge of it. I shall be glad to look into it.

Senator SHAFROTH. I wish you would look into this, so we can move this amendment before this committee adjourns.

Senator WARREN. I would like to ask one question in regard to that same appropriation. I noticed the House did not reach the full estimate on Alaska. Alaska estimated for \$60,000 and they allowed them \$48,000. I was wondering whether that was sufficient or not for the agricultural experiment station there. What I wanted to get at was whether you thought \$48,000 was sufficient or whether we should allow \$60,000?

Secretary HOUSTON. We are asking you to restore the amount of the estimate, \$60,000.

The CHAIRMAN. That was granted.

Secretary HOUSTON. By the committee?

The CHAIRMAN. Yes.

Secretary HOUSTON. I will leave a memorandum on this matter if the committee desires.

(The memorandum referred to follows:)

ALASKA EXPERIMENT STATION.

Page 64, line 23, change "\$143,000" to "\$155,000," and change "\$48,000" to "\$60,000," an increase of \$12,000.

NOTE.—The increase in this item of \$12,000 is recommended in order to bring the additional amount for the work at the Alaska experiment stations up to \$20,000, the figure submitted in the department's estimates. The House committee allowed an increase of only \$8,000 for the work in Alaska. This sum, in reality, does not constitute an increase but merely replaces the \$8,000 realized annually from the sale of products and heretofore available in connection with the experimental work at the Alaska stations. All funds derived from the sale of products at the stations must now be deposited in the Treasury as miscellaneous receipts.

It is very desirable to establish a new experiment station in the Matanuska Valley along the line of the proposed railroad from Seward to Fairbanks. The building of this railroad will open up a new region that is believed to have pronounced agricultural possibilities. The soils and climate are, however, entirely unlike those at any of the other Alaska stations, so that the results obtained elsewhere are not applicable to this region.

At the Fairbanks station much of the manual labor is done by the superintendent, and it is believed that economy and greater efficiency could be effected by the appointment of an additional botanist and plant breeder to serve as a permanent assistant to the superintendent, thus reducing the amount of labor that it would be necessary to employ and at the same time secure a higher grade of service at relatively low pay.

The CHAIRMAN. I refer, Senator Warren, to the \$8,000 which we have been deriving heretofore from the sale of products, but which now, under the law, is required to be deposited in the General Treasury. We reimburse them for that amount.

Secretary HOUSTON. I think it is desirable to allow the full amount of the estimate.

Senator WARREN. \$60,000 instead of \$48,000?

Secretary HOUSTON. Yes.

The CHAIRMAN. Are there any other instances where the House bill does not come up to the estimates?

Secretary HOUSTON. I have a number of other suggestions to make. I can read them or simply leave them with the committee. I have them all formulated.

The CHAIRMAN. You may leave them with the committee unless there are some to which you desire specially to call attention.

Senator SMITH of South Carolina. I would like to ask the Secretary about the item on page 19, line 22, "For the investigation, testing, and improvement of plants yielding drugs, spices, poisons," etc., as I have received many communications from those interested in it. There is just one item I noticed here, on page 388 of the hearings, which was rather startling to me, that in 1914 there was imported into this country 8,829,487 pounds of red pepper, at a cost of \$1,007,849. The letters I have received from those engaged in this experimentation say that the amount provided for in this bill is not sufficient to carry on the experimentation—to develop certain forms of plants and to ascertain which bear these drugs and these ingredients—and I want to know if your attention has been called to that?

Secretary HOUSTON. You speak of dyes?

Senator SMITH of South Carolina. Dyes and all these related substances provided for under the item "For the investigation, testing, and improvement of plants, yielding drugs, spices, poisons, oils, and related products and by-products, and for general physiological and fermentation investigations, \$48,820."

Secretary HOUSTON. I have no suggestion, Senator, as to an increase for the investigation of drug plants, but I have presented to the committee an item of \$50,000 for investigations and experiments in the utilization of color materials in order to improve the dyestuff situation.

Senator SMITH of South Carolina. I noticed in the hearings that they covered that point as well under this item, and I have letters from those engaged in it stating that there were certain plants that were likely to become extinct which they found were very rich in the very things that we are importing, and, as I see no indication here that any estimate has been made, I thought I would like, as you happened to be here, to call attention of the committee to it anyhow. I wanted to know whether your attention had been called to the importance of a thorough investigation along this line.

Secretary HOUSTON. Not except in reference to dyestuffs. I should like to leave this memorandum with the committee.

I will give a brief outline of it. The department proposed this item: "For investigation and experiment in the utilization for coloring purposes of raw materials grown or produced in the United States, \$50,000." This went out on a point of order. It was in the House committee bill. The House substituted, "For the employment of chemists and other scientific assistants for investigation and experiment in the utilization of coloring materials, \$50,000." It is suggested that the language be changed to read, "For investigation and experiment in the utilization of color materials."

(The memorandum referred to follows:)

COLOR INVESTIGATIONS.

Page 46, lines 3 to 5, strike out the words "the employment of chemists and other scientific assistants for," and change the word "coloring" to "color."

NOTE.—As originally proposed in the department estimates, this paragraph read:

"For investigation and experiment in the utilization, for coloring purposes, of raw materials grown or produced in the United States, \$50,000."

This item was approved by the House committee, but was stricken out on the floor of the House on a point of order, the following being substituted therefor:

"For the employment of chemists and other scientific assistants for investigation and experiment in the utilization of coloring materials, \$50,000."

This language was adopted by the House. It might be construed, however, that the appropriation could be used only for the payment of salaries. The department accordingly suggests that the paragraph be changed to read as follows:

"For investigation and experiment in the utilization of color materials, \$50,000."

It will be noted that the wording, "coloring materials," has been changed to "color materials." The designation "coloring materials" in some cases might be interpreted to mean materials which are in themselves dyes and used for the production of color upon fabrics and other substances. The term "color materials," however, is more extensive, and refers not only to dyes but to materials from which dyes may be produced.

The committee, of course, is familiar with the dye situation. The United States is largely dependent upon foreign countries for its dyestuffs. The

results of investigations in the manufacture of synthetic dyestuffs and the utilization of raw materials, both natural and artificial, for the manufacture of dyes will tend to place this country in a position where it will be independent of foreign manufacture. Manufacturers in this country have been unable to produce economically the coloring substances required in the industries, since very little scientific investigation has been directed to this end in the United States. The sum provided by this item will enable the Department of Agriculture to work out practical methods for utilizing domestic products in the manufacture of dyes and to secure further data concerning the coloring substances, both natural and artificial, which are found in food products. The department is of the opinion that this country can economically produce all necessary coloring substances if proper methods are developed.

It is believed that the Bureau of Chemistry is the proper agency to conduct the work. For a number of years it has been dealing with certain phases of the dye problem and consequently has been in direct touch with the dye situation. It already has laboratories which are partially equipped to do the work contemplated, and it also has in its employ a number of expert chemists. It seems beyond question that it is in a position to undertake the work in the most efficient and economical manner. It is proper to state here that the work proposed will not duplicate in any way the activities of the Bureau of Standards. The matter has been discussed with the Secretary of Commerce, who fully understands the undertaking which this department has in mind and concurs in the view that the investigation should be made as indicated.

The original estimate submitted by the department for this work was \$20,000. On February 3, 1916, however, after it became apparent that this sum was not sufficient to enable the department adequately to attack the problem, an additional estimate of \$30,000 was transmitted to the Congress. This estimate has been printed as House Document No. 680.

Senator WARREN. You want it changed, then, from what it was in the House?

Secretary HOUSTON. Yes. Dr. Alsberg is of the opinion that by careful investigation we may be able to discover the processes known in Europe for the production of color materials and that we ought to be able to supply ourselves with color materials as well as European countries do. He feels reasonably confident that headway could be made. We have discussed the matter carefully with the Department of Commerce with a view to avoid duplication of work. The Bureau of Standards is touching this matter at some points, and the project that we have outlined is the result of a conference between Dr. Alsberg and Dr. Stratton.

Senator WARREN. I was just going to ask you about that and whether your department was equipped to conduct all these experiments, whether agricultural products, mineral products, or whatever they may be.

Secretary HOUSTON. Yes; we touch the problem at many points, especially in our food and drugs work, and also in our plant work. But the controlling fact is this: We have 276 chemists. We have the largest chemical organization in the country—much larger than any other department—and, since we do touch the problem at many points and have this staff, it seemed that this department was the proper place to locate it.

Senator WARREN. Speaking of the Bureau of Standards, my conception of that bureau is that that is what it means—to try the materials out as brought to them for their testing, after they have been manufactured or the formula got somewhere else; and I should assume their functions would be the same in this matter—to have the materials carried up to them in the end only, perhaps.

Secretary HOUSTON. I think it is worth while undertaking, and we have the experts to handle it.

Senator RANDELL. Mr. Secretary, I wish to ask a question.

Senator SMITH of South Carolina. Before passing from that item for drug plants, Mr. Secretary, would you call attention to the proper ones in the bureau charged with this and let the committee know whether or not in their opinion this \$48,000 is sufficient for this work?

Secretary HOUSTON. That is on page 19?

Senator SMITH of South Carolina. Yes.

Secretary HOUSTON. That is the Bureau of Plant Industry?

Senator SMITH of South Carolina. Yes.

Senator RANDELL. I wish to ask the Secretary a question with respect to the item on page 63, "For farmers' cooperative demonstrations and for the study and demonstration of the best methods of meeting the ravages of the cotton-boll weevil," etc. I understand that the subcommittee has recommended a reduction in that item of \$10,000, and I wish to ask if, in your judgment, we can safely afford to deduct \$10,000 from that item. I know personally it has been one of the most satisfactory works of the entire Department of Agriculture down in my region.

Senator WARREN. They said they took that and added it to another matter.

Senator RANDELL. I know, but we want it in both places. They took it out of the farmers' cooperative demonstrations and gave it to the Bureau of Entomology for scientific investigation about the boll weevil. That is all right. We need it for both purposes. I do not want to rob Peter to pay Paul, and we need both.

Senator WARREN. You would rather rob neither?

Senator RANDELL. I do not want to rob either.

Secretary HOUSTON. We are suggesting that the item for investigating insects affecting southern field crops be increased from \$64,400 to \$74,400, so that the investigational work upon the boll weevil may be enlarged. I will leave with the committee a memorandum covering this matter. In acting upon the recommendation I hope the committee will not deem it necessary to make a corresponding reduction in the item for "Farmers' cooperative demonstration work in the Southern States." A reduction in this fund would seriously interfere with the plans which we have in mind for the next fiscal year.

(The memorandum referred to follows:)

COTTON-BOLL-WEEVIL INVESTIGATION.

Page 51, line 2, change "\$64,400" to "\$74,400," an increase of \$10,000.

NOTE.—Including transfers to the statutory roll, the appropriation for investigations of insects affecting southern field crops, as the bill passed the House, carried an increase of \$10,000 over the current act. This is the amount requested in the department estimates and approved by the House committee. The department desired to use this increase, however, in the enlargement of the work on the cotton-boll weevil, but the report of the House committee specifically states that this sum will be used for the extension of the work relating to the tobacco hornworm.

While this increase can be used to advantage in enlarging the work on tobacco insects, an increase in the fund for cotton-insect investigations is, in the opinion of the department, of much greater importance. It is therefore recommended that this item be further increased by \$10,000; that is, from \$64,400 to \$74,400, to provide for the enlargement of the boll-weevil work.

Two comparatively recent events make it necessary for the department to enlarge its work on the boll weevil. One is the invasion by the boll weevil

of the sea-island districts of Florida and Georgia and the other the discovery of a new form of the boll weevil in Arizona, which, though now confined to a wild plant, will undoubtedly attack cultivated cotton in a short time.

Conditions in the sea-island districts are peculiar, and there is every indication that the control of the boll weevil there will require the development of methods somewhat different from those found effective in short-staple cotton districts. The sea-island varieties develop and mature more slowly than the upland. They are grown on lands where the conditions are likely to render the control of the boll weevil more difficult. This situation demands special experimental work in regions which became infested for the first time during the present fiscal year. The States directly involved have urged that the department assist in a campaign against the pest in this region.

The Arizona weevil is a menace to the rapidly developing cotton industry in that State. It occurs in mountain canyons and will undoubtedly be brought in contact with cotton cultures through the plantings which are being extended rapidly. The insect has adapted itself perfectly to arid conditions and can live through an entire season without food. It is of the greatest importance that the department obtain full information about the habits of this pest and the means by which it may be prevented from gaining entry to the cotton fields. The importance of the problem, however, is not restricted to Arizona. It is quite possible that by flight or otherwise the species might be introduced into western Texas. In that part of the State the dry conditions have prevented the establishment of the common boll weevil, and the development of cotton culture in that quarter has served in a very important way to enable the State of Texas to maintain its production of this crop. If the Arizona weevil were introduced, it would interfere seriously with this development and would result in a continuous weevil infestation from the western to the eastern limits of the cotton belt, whereas at present there is a very large area in the west which is not affected.

Senator RANDELL. I am glad to hear you say that.

Secretary HOUSTON. There are new problems constantly presenting themselves in regard to the boll weevil. It is gradually coming toward the Atlantic. It will strike the sea-island cotton next, and we have got to educate the farmers ahead of the work, as you know.

Senator RANDELL. I think it is very difficult to do it.

Secretary HOUSTON. Yes.

Senator RANDELL. You leave the \$661,300 just as it is for the farmers' cooperative demonstrations in the South?

Secretary HOUSTON. Yes; I think it would be a mistake to reduce that appropriation.

Senator SMITH of Georgia. You recommend an increase of \$10,000 for experimental work on the insect itself?

Secretary HOUSTON. Yes; that is the result of it. I may call attention to the fact that the House bill carries an increase for the demonstration work in the North (p. 63). The demonstration idea is spreading. There are increased demands for it. Communities are getting more and more interested, putting up funds, calling for demonstration agents. This is especially true in the North, where the work is relatively newer than in the South. We have found that next year we can use to advantage at least \$100,000 more in extending the demonstration machinery in northern States in cooperation with communities.

Senator RANDELL. That is in addition to \$478,000?

Secretary HOUSTON. No; that is the total. I was explaining the increase over the amount for the current year. There are about 2,850 rural counties in the Union. Ultimately we shall have, I imagine, two demonstrators in each rural county—a man and a woman. The need for women workers in the North has not been so generally appreciated as in the South. In the South we have at present, I believe,

400 women demonstrators, and they are doing admirable work. There is a growing demand for them in the North, and, I think, the ultimate organization will be what I have indicated.

The Smith-Lever fund, that includes both State and Federal funds, if the communities continue their cooperation as at present, will, when the act is in full operation, provide for two of these agents in each rural county in the Union. The question has been raised as to whether the direct appropriation to the department ought to continue. I think it ought. The farm demonstrator is being called upon for different kinds of aid. He can not know many things expertly, and ultimately I think that we should have in each State some high-grade expert men in the various specialties, who can work with and can help the county agents in the more difficult aspects of problems with which they are confronted. In some cases it may be a marketing specialist—a man dealing with the marketing of perishable fruits in communities where they are important. In others, it may be an expert in animal diseases or in dairying. I hope there will always be a direct fund for the department. I highly approve of the co-operative arrangement. I think it tends to solve the difficulties growing out of our dual system of government, and I think the experience of the last two years has shown that State and Federal agencies can work together effectively and cordially.

Senator JOHNSON of South Dakota. That is being demonstrated more and more every day, is it not?

Secretary HOUSTON. I do not recall now a single existing case of friction or conflict, and the work is proceeding, I believe, efficiently and with cordial relations between the department and the land-grant colleges.

But suppose we were to discontinue the direct appropriation. Then we should have to work at long range in a measure. I think it is going to be to the advantage of the work to keep the department in close personal touch with the local machinery through well-trained specialists. The department has as much information to give out as the other agency has—the land-grant college—and we do not want to be short-circuited.

Senator JOHNSON of South Dakota. Are you discussing the experiments under the Smith-Lever law or the general demonstration?

Secretary HOUSTON. I am discussing the direct demonstration fund and the desirability of continuing the direct appropriation to the department.

Senator JOHNSON of South Dakota. Mr. Secretary, is not the real purpose, after all, of the \$600,000 that we expend in the South and the \$400,000 in the North, and nearly all the other millions that are expended for agriculture, to put you in position to get in touch with the man who does the practical work of agriculture?

Secretary HOUSTON. Yes.

Senator JOHNSON of South Dakota. It strikes me so.

Secretary HOUSTON. I do not think the Nation is doing more successful or fruitful work than this demonstration work.

Senator RANDELL. I would like to say, individually, that I am convinced that we get more benefit out of that work than we do out of all the balance, because your demonstrator comes there and gives it to us in a practical way; he talks to my colored farmers and gives that demonstration we would never get otherwise.

The CHAIRMAN. It seems to me that is the result of contact with the man on the farm.

Secretary HOUSTON. There is one item I might call attention to while I am here. It does not immediately concern this committee, but it may come up on the floor of the Senate. It goes to the Committee on Appropriations. We are asking for an increase in our printing fund. There has been a tremendous increase in the demand for bulletins and other literature from the department. I suppose that Senators and Members of the House have felt it. We can not, with the existing appropriations, which has been the same for two years—

The CHAIRMAN. What is the aggregate amount of it?

Secretary HOUSTON. \$500,000.

Senator KENYON. Does that increase at the time of campaigns?

Secretary HOUSTON. No; the increase would not be available in time for the campaign.

Senator KENYON. Do they want bulletins sent out at the time campaigns are on?

Secretary HOUSTON. Perhaps so; but I am looking beyond the election, which will be over in November; I am looking to the whole of the next fiscal year.

Senator KENYON. I think there will not be so large a demand a couple of years hence.

Secretary HOUSTON. I imagine there will be a still greater demand. There are many bulletins ready which we have not been able to print. As a matter of fact, Senator, the interest is increasing among the farmers—

Senator KENYON. I guess that is true.

Secretary HOUSTON (continuing). As this demonstration work proceeds; and, furthermore, the number of farmers is increasing.

Senator KENYON. I think those bulletins are very helpful and very profitable.

Secretary HOUSTON. We do not regard the bulletins as the most effective way of reaching the farmers, but still they are useful.

Senator KENYON. What about these free seeds? Is there any intention of sending those out?

Secretary HOUSTON. I expressed myself on that three years ago, but I got turned down.

Senator KENYON. Your recommendation was against it, was it not?

Secretary HOUSTON. Yes.

Senator KENYON. I suppose you have not changed your mind about it?

Secretary HOUSTON. Not substantially. I think there are a great many people who get some good out of the distribution; there are some who do not.

There is a small increase I should like to ask for in connection with the Bureau of Plant Industry. On page 20, line 19, under cereal investigations, it is suggested that \$157,005 be changed to \$164,505, an increase of \$7,500. The Bureau of Plant Industry tells me that four new diseases of Indian corn have been discovered in the Orient within the past few weeks and that they are more or less widely distributed.

The CHAIRMAN. Will you leave a memorandum of that, Mr. Secretary?

Secretary HoustON. Yes; and further, the appearance of some new diseases, stripe rust of wheat in the western part of the United States and a serious fungous disease of oats in California, emphasizes the importance of securing more information concerning the occurrence of diseases of important crops in foreign countries. This matter has been brought to my attention since the estimates were submitted and I present it for your consideration.

(The memorandum referred to follows:)

FOREIGN INVESTIGATIONS OF CEREAL DISEASES.

Page 20, line 19, change "\$157,005" to "\$164,505," an increase of \$7,500.

NOTE.—This is a new item. It was not presented in the estimates or discussed with the House committee. The increase of \$7,500 is asked in order to enable the department to conduct foreign investigations of diseases of cereals. Four new and destructive diseases of Indian corn have been discovered in the Orient within the past few weeks and have been found to be more or less widely distributed. While the introduction of these diseases into this country may be prevented by the establishment of suitable quarantine restrictions, the existence of these diseases suggests the very serious probability that important and destructive diseases of other cereals and sorghums may be prevalent in the Orient. It is probable that our importations from these countries may increase and, with this development, the possibility of introducing new diseases correspondingly increases.

In spite of this probability, our information is insufficient to enable us to develop additional effective quarantines. In the circumstances, it is urgent that provision be made for investigation of the disease conditions of cereals at various points in the Orient from which shipments of cereals might be made to this country. This is especially important for the protection of our sorghum crop. At least one dangerous disease of this crop is now prevalent in the Orient, but to the best of our knowledge it has not been introduced into this country. Because of the interest in the sorghums, small quantities of various types and from many localities are being brought into the United States, and unless we are able to determine what areas are sources of danger to this country, it would be only a short time until all the dangerous diseases would be introduced.

It is proposed to expend the \$7,500 increase as follows:

One pathologist.....	\$2, 750
One assistant.....	1, 600
Laboratory equipment.....	800
Travel, incidental expenses, including labor, and rent of laboratory space outside of the District of Columbia.....	2, 350
Total	7, 500

The appearance of the destructive stripe rust of wheat in the western part of the United States during the past season and the recent announcement that a new and presumably serious fungous disease of oats has appeared in California, as well as the impossibility of determining at present the sources of these diseases, gives special emphasis to the importance of promptly securing more information concerning the occurrence of diseases of important crops in foreign countries.

The CHAIRMAN. The committee will be glad to have you leave your memorandum. Are there any other suggestions with respect to the House bill and the estimates, Mr. Secretary, that you wish to submit?

Senator WARREN. I wanted to ask what the Secretary had to say in regard to volcanology, or whether there was a recommendation from the department for taking it over by the United States.

The CHAIRMAN. I remember a recommendation for the study of volcanology.

Secretary HOUSTON. I think the work would be worth doing. We are studying seismology and atmospheric conditions. Volcanic action is related to both and also results in destruction of life and property. We are not asking now for the full amount formerly suggested.

Senator WARREN. I had the privilege of going through that little settlement on the Kilanea volcano, and then I happened to have the privilege with many others of seeing the views from it that were exhibited by Prof. Jaggard a short time since at the hotel, and I introduced an amendment asking that appropriation of \$12,000 for taking it over. I do not know whether that is enough or not.

Secretary HOUSTON. That is the amount we are suggesting. It seems to me a small matter of large importance that ought to go into the bill. We are suggesting, Senator, the reduction of the item from \$18,000, the amount carried in the original suggestion, to \$12,000. I will leave with the committee a memorandum regarding the matter.

(The memorandum referred to follows:)

VOLCANOLOGY.

Page 8, line 9, after the word "seismology" insert "volcanology."

Page 8, line 22, after the word "seismology" insert "volcanology."

Page 8, line 23, change "\$1,242,650" to "\$1,254,650," an increase of \$12,000; change "\$626,720" to "\$635,720."

NOTE.—These changes are proposed in order to enable the Weather Bureau to undertake investigations in volcanology.

The department in its estimates submitted an increase of \$75,000 in the appropriation for "Expenses outside of the city of Washington." In a subsequent communication to the House committee it was recommended that this appropriation be further increased by \$18,000 for investigations in volcanology. It was proposed to expend the \$75,000 as follows: \$30,000 for extension of the weather service to the Caribbean Sea region, including the Panama Canal Zone and other portions of the mainland and the islands adjacent thereto; \$20,000 for extension of forest-fire forecasts, frost-warning work, and river and flood work; \$10,000 for an extension of the work of the bureau in Alaska, because of the active development of the agricultural and commercial industries of that Territory; \$15,000 to provide for increases in the salary of about 70 of the most worthy field employees of the bureau.

Of this increase of \$75,000, the House committee and the House allowed \$57,500—\$30,000 for the Caribbean Sea and Panama Canal Zone service, \$10,000 for extension of the frost-warning and river and flood work, \$10,000 for extension of the work in Alaska, and \$7,500 for increasing the compensation of field employees of the Weather Bureau.

There is an intimate relation between volcanology, meteorology, and agriculture. Some of the most fertile fields in the world are in the vicinity of great volcanoes, as in Hawaii, Japan, Martinique, and notably around Mount Vesuvius. From time to time volcanoes burst forth and eject tremendous quantities of finely divided dust and particles, which are thrown to very great heights in the upper atmosphere. The heavier particles fall quickly to the ground, while the most finely divided dust remains suspended in the upper atmosphere for many months and even years. Throughout this period the presence of the dust materially modifies the transmission of solar radiation to the earth's surface and causes effects that appreciably change the climatic conditions. Only within recent years has the importance of the study of these phenomena of nature come to be properly recognized. Furthermore, there is a most intimate relation between volcanology and seismology. Investigations in the latter is one of the duties with which the Weather Bureau is now charged. The subject is one that vitally concerns engineers in the construction of viaducts, dams, large buildings, and reclamation projects in places where fault lines of moving rifts of the earth may, by sudden activity, destroy anything on the fault line. There are hundreds, and possibly thousands, of such fault lines in the territory belonging to the United States. Active volcanoes are ideal places for study-

ing this subject, because there are many local earthquakes in the vicinity of volcanoes. Many believe that volcanoes are primarily the cause of earthquakes.

Investigations in volcanology properly belong in the Weather Bureau. The subject is closely allied to its present lines of work, and it is in a better position to make the investigations at a smaller cost than any other branch of the Government. Furthermore, it is the practice of all governments of the world, where earthquake studies are undertaken, to have the work done in connection with meteorological services. The utilitarian value of studying volcanoes so as to be able to forecast eruptions, as many scientists believe can be done, is enormous when it is considered that the property destroyed by the eruptions of volcanoes in the past 15 years all over the world is estimated to be at least \$3,000,000,000.

If the increase is allowed, the investigations will be confined at the beginning to the volcanic regions of Hawaii, with possibly some slight extension in California. It may be stated in this connection that a bill recently passed the House providing for the inclusion in a national park of the region in which the most active volcanoes of the Hawaiian Islands are located. The department has received assurances that, if the Government undertakes the work, all the facilities of the Hawaiian Research Association, which has been investigating Hawaiian volcanoes in a more or less ineffective way because of lack of funds, will be placed at the disposal of the Weather Bureau.

Senator WARREN. And that is the amount asked for in the amendment?

Secretary HOUSTON. Yes.

The CHAIRMAN. In that connection I would say, Mr. Secretary, that the committee has tentatively decided not to include the Weather Bureau appropriation for buildings on the Panama Zone and Cape Henry. I noticed those were contained in the estimates. We called up the department with reference to them. I did not know whether you had anything especially to say on the subject or not. We made provision for extending the service in the Caribbean Sea and in that region.

Senator WARREN. I want to say, for fear the matter should happen to come up during my momentary absence, that I think the study of volcanology is important. It is closely connected with what is already in the Department of Agriculture, and it is a little too much to expect that investigations of that kind are going to be supported and carried on by subscriptions and outside appropriations.

The CHAIRMAN. Mr. Secretary, there is one point on which I would like to have your judgment. We have three riders on our bill: The cotton-futures act, the grain-grading act, and the warehouse act. The bill, in relation to that, as an appropriation bill, carries an item to carry on the work under the cotton-futures act as it now exists, and also to carry forward the standardization of grain grades. The question has been raised as to whether it would be necessary to carry those items, if the riders were retained when the bill becomes a law. My own impression is that those items will be necessary. I would like to have your view upon that, if you have compared the items.

Secretary HOUSTON. You are asking about the investigational work on grain standardization?

The CHAIRMAN. Yes, sir. There is an item of \$88,770 to care for the grain-grading work. The question has been raised as to whether that item would be necessary if the grain-grades act was retained in this bill. My impression is that it would.

Secretary HOUSTON. It will be.

The CHAIRMAN. The point was raised by somebody that the work ought to be discontinued.

Secretary HoustON. Not only should the work be continued, but we are suggesting in this memorandum an increase in the amount allowed by the House.

(The memorandum referred to follows:)

GRAIN STANDARDIZATION.

Page 20, line 5, change "\$88,770" to "\$109,920," an increase of \$21,150.

NOTE.—The estimates provided for an increase of \$37,000 in the grain-standardization item for the fiscal year 1917: (a) \$25,000 for three new grain-standardization laboratories, one each at Minneapolis, Buffalo, and St. Louis; (b) \$7,500 for investigations relating to the handling, grading, and transportation of the grain sorghums; (c) \$4,500 for a study of the grain-handling methods of the Southern States. Of this amount, as recommended by the House committee and as passed by the House, the item carries an increase of \$15,850—\$8,350 for one additional laboratory at some point in Minnesota, and \$7,500 for the grain-sorghum work—the increase for the laboratories at Buffalo and St. Louis and for the grain-handling work in the Southern States being eliminated.

From the standpoint of importance as to the quantity of grain received, Buffalo ranks third in the United States, with 150,000,000 bushels, and St. Louis sixth, with 72,000,000 bushels. The amount of grain handled at these two markets and the class and quality of the grain make it important that laboratories be provided at these points. The Buffalo market is confined very largely to the handling of grain which comes down the Great Lakes from Duluth and Canada, and none of the other laboratories are so located as to make it possible to undertake a study of this grain. Moreover, Buffalo is one of the largest transfer points in the United States, and it is important that some investigations be made in this connection. St. Louis, on the other hand, is peculiarly located, handling large quantities of both hard and soft winter wheat and also large quantities of both corn and oats. The laboratory at Kansas City is not able to cover St. Louis territory, and the grain handling at Kansas City is for the most part of a different character. Likewise, the laboratory at Decatur, Ill., is confined mainly to the study of conditions at country points in central Illinois and in Ohio, and it is not possible to cover the St. Louis market from Decatur.

The \$4,500 estimated for the study of grain handling in the South is merely sufficient to begin that work and to enable the department to give assistance and cooperation which is very much needed on account of the increased production of grain in that region. The southern farmers are not familiar with the proper methods of harvesting, handling, and storing grain in order to prevent deterioration and to put it in proper condition for shipment. In this connection, it should also be stated that in the Southern States, where we have not been able heretofore to investigate the handling, grading, and transportation of grain, there was produced in 1915 a total of: Wheat, 46,414,000 bushels; corn, 574,470,000 bushels; oats, 81,164,000 bushels; rye, 1,979,000 bushels; and barley, 492,000 bushels, making a grand total of 704,519,000 bushels, which is 11.9 per cent of the total production of these grains in the United States.

Regardless of the action taken upon the grain-grades act, which was included in the bill on the floor of the House as part B, the department deems it essential to establish new laboratories at the points indicated and to undertake the work relating to grain sorghums and the handling of grain in the South in order that the fundamental principles involved in the handling and standardization of grain in the various sections may be worked out.

The department will submit, within the next few days, for the consideration of the Senate committee, several suggestions regarding changes in the grain-grades act.

The CHAIRMAN. Yes, sir. I would be very glad, if there are no other suggestions relating to the appropriation part of the bill, to hear you on the riders, beginning with the cotton-futures act.

Secretary HoustON. May I leave this memorandum with you, on the weather building at Cape Henry?

The CHAIRMAN. Yes, sir.

Secretary HOUSTON. I am still of the opinion that we ought to have that building, but I will not take time to read this statement.

(The memorandum referred to follows:)

WEATHER BUREAU BUILDING AT CAPE HENRY, VA.

Page 9, insert the following paragraph between lines 1 and 2:

"For the purchase of a site and the erection of a building at Cape Henry, Virginia, to be constructed under the supervision of the Chief of the Weather Bureau, plans and specifications to be approved by the Secretary of Agriculture, and for all necessary labor, materials, and expenses connected with this work, \$22,500."

NOTE.—This item was included in the department estimates and was approved by the House committee, but went out on a point of order in the House.

It is believed that this item was eliminated because of a misunderstanding as to the necessity for the building and the urgent need for an appropriation at this time. The station at Cape Henry, Va., is a very important one. Valuable meteorological observations are made and vessels going in and out of Chesapeake Bay and those bound in and out of Hampton Roads are reported. The reporting of vessels, of course, is of inestimable value, not only to the marine interests of Chesapeake Bay and of Norfolk, Newport News, and other shipping points on Hampton Roads, but to the vessel owners in all parts of the country. Vessel reporting is conducted night and day. It can not be done properly unless a suitable building is provided, so located as to present an unobstructed view of the fairway of vessels and high enough to permit the ready identification of the ships. Furthermore, Cape Henry is the headquarters of the chief operator of the Weather Bureau telegraph line along the Virginia and North Carolina coasts as far southward as Cape Hatteras. This line is the only way of communicating, through Norfolk, with the people inhabiting the 140-mile stretch from Cape Henry to Cape Hatteras and of obtaining weather reports and disseminating warnings in that territory. These reports are indispensable in the making and disseminating of weather forecasts and storm warnings and also as a cooperative means of communication with the life-saving stations located on this dangerous strip of coast.

The present Weather Bureau building is located within the reservation upon which extensive fortifications will be constructed by the War Department. Our records show that it was erected 43 years ago. It is a flimsy frame structure and can not be moved. Furthermore, the building is not now considered safe. It was originally two stories high, but about 14 years ago it was remodeled and another story added in order to secure a clear view of the ocean and the bay. It contains the original framing timbers and insecure foundation. The Weather Bureau will be embarrassed in the performance of its work at this important point if provision is not made for the acquisition of a site and the erection of a suitable building.

Senator WARREN. Mr. Chairman, if I do not detain you, I am a great believer in the excellence and the importance of the Weather Bureau, and, if those buildings are needed, it involves only a moderate appropriation and I think buildings ought to be provided at both places—Cape Henry and Panama. Cape Henry is liable to be of considerable importance as to shipping and should have a good station.

Secretary HOUSTON. I think so, especially as the building we now have is not regarded as safe.

Senator SMITH of Georgia. Will you, in a few words, give us your reasons for desiring the Cape Henry observation station?

Secretary HOUSTON. It is a very important station. Meteorological observations are made there and the vessels going in and out of the Chesapeake and those bound in and out of Hampton Roads are reported from there. These reports are of value not only to the interests of the Chesapeake Bay and of Norfolk but the other shipping points around the section.

Senator SMITH of Georgia. What have you there now?

Secretary HOUSTON. We have a frame building, considerably modified as time has passed. It is located within the reservation upon which extensive fortifications will be constructed by the War Department, Senator. It was erected 43 years ago. It is a flimsy frame structure and can not be moved. The building is not now considered safe. It was originally two stories high, but about 14 years ago it was remodeled and another story added, in order to secure a clear view of the ocean. It contains the original framing timbers and insecure foundation. We are asking \$22,500 to put up a modern Weather Bureau station.

Senator SMITH of Georgia. The station is essential to good service?

Secretary HOUSTON. Yes; absolutely; it is one of the most important of the coast stations.

Senator SMITH of Georgia. You want a building that will enable you to perform effective service?

Secretary HOUSTON. We want one properly located and properly arranged, so that the vessels can be reported and the observations taken.

The CHAIRMAN. I think the importance of the station was appreciated, but we were hoping it might go over for a year.

Senator BRADY. I would like to call the Secretary's attention to an item on page 13, line 6, covering all necessary expenses for investigations and experiments in dairy industry, cooperative investigations of the dairy industry of the various States, etc., \$272,470; and I see on page 16 of the Lever report it says:

2. Extension of cheese-factory investigations, \$3,000.

I have had that matter up with some members of your department and have prepared the amendment increasing the amount here \$5,000 and increasing that item on page 16 to \$8,000. It does not seem to me that that \$3,000 is enough for the work that is necessary to be done under this item in the way of the cheese industry. We import \$60,000,000 worth of cheese every year, and, as an illustration, about five years ago Mr. Thompson started a cheese factory in Idaho, and last year something got wrong with his cheese, and he could not find out what it was, with all his experience. He finally, through your department, secured a man from Montana. He made his investigations and inside of three days progressed in such a manner that they overcame the difficulty and saved him hundreds of dollars. This additional \$5,000 will enable you to put on about two special men to go out into different parts of the country in that way, and I am convinced it would be just as good an investment as we could make in that line, and I would be glad for its earnest consideration.

Secretary HOUSTON. I am sure Dr. Rawl would agree with you; and it is true.

Senator BRADY. He agrees thoroughly. It is also a small amount.

Secretary HOUSTON. Yes; it could be very profitably used.

Senator BRADY. I call your attention to this now, so they will understand your position.

Secretary HOUSTON. Dr. Rawl has been very much interested in this work, and he could unquestionably use the increase very profitably.

Senator BRADY. They simply have not the men to send around to make these inspections and the cheese industry is increasing very rapidly in our State.

The CHAIRMAN. Are there any other items which some Senator desires to call up?

Senator SHEPPARD. I would like to ask the Secretary's opinion about one or two things.

Secretary HOUSTON. May I, before I go into them, leave two memoranda with the committee? I thought it would be better to have them in definite shape.

The CHAIRMAN. Yes, sir.

(The memoranda referred to follow:)

RENT IN THE DISTRICT OF COLUMBIA.

Page 61, line 7, change "\$123,689" to "\$138,689," an increase of \$15,000.

NOTE.—The bill as passed by the House provides for a considerable expansion of the activities of the department, notably in the case of the Office of Markets and Rural Organization and the States Relations Service. This, of course, will necessitate the appointment of a large number of additional employees in the city of Washington. It is estimated that, in order to provide suitable accommodations for the force necessitated by the increased appropriations for these two branches alone, at least 14,000 square feet of additional floor space will be required. It is impossible to provide accommodations for the additional employees in the buildings now occupied by these bureaus.

Many other branches of the department are now seriously overcrowded and, unless relief can be afforded, this condition will be aggravated during the next fiscal year. From time to time it has been necessary for the department to rent several buildings which are not suitable for office purposes and are not fireproof. If the increase recommended is allowed and authority is given to enter into term leases as suggested in the next note, it is believed that the department will be able to secure the erection of another large modern fireproof office building in the neighborhood of the department grounds to accommodate the Forest Service, enable the abandonment of several nonfireproof structures, provide for the expansion of the offices now needing additional space, and relieve some of the congested conditions now prevailing. This will result in a greater centralization of the various branches of the department, will greatly facilitate the transaction of Government business, and will be decidedly economical and advantageous. It is urgently recommended that the increase be granted.

This item was not included in the estimates because it was impossible at that time to forecast the action of the Congress upon the department's recommendations and the need for additional space was not so apparent.

FIVE-YEAR LEASES.

Page 61, line 11, at the end of the line add the following:

"And provided further, That hereafter the Secretary of Agriculture, whenever in his judgment it is clearly advantageous to the Government, may lease for terms not exceeding five years buildings or parts of buildings in the District of Columbia necessary for the accommodation of the Department of Agriculture."

NOTE.—The department is now compelled to lease the buildings it occupies year to year. It would be distinctly to the advantage of the Government if the department were authorized to enter into term leases. In dealing with the owners of property it would then be possible to make more advantageous terms than the present arrangement of yearly leases permits. Under the existing lease for the building at 1358 B Street SW., the department could effect an immediate saving of \$1,000 per annum, and, undoubtedly, reductions in the rental of other buildings could be secured. The buildings at 220 Fourteenth Street SW. and 216 Thirteenth Street SW. are of the modern fireproof type, and the department will without doubt occupy them for the next five years at least.

There is ample legislative precedent for the proposed addition to the paragraph, the following branches of the Government now having authority for making term leases:

Department of Commerce, act of August 26, 1912, five years.

Navy Department, legislative act, approved March 4, 1913, not to exceed 10 years.

Civil Service Commission, general deficiency act, approved June 25, 1910, 10 years.

Department of Justice, legislative, executive, and judicial act, 1917, five years.

Department of Labor, legislative, executive, and judicial act, 1917, five years.

Secretary HOUSTON. I am suggesting an increase of \$15,000 in the item for rent in the District of Columbia. The new obligations placed upon the department, the increased activities of several of the bureaus, such as the Office of Markets, the States Relations Service, and others, call for additional room. I should like to see the Forest Service transferred nearer to the other bureaus. We have a great deal of business with the officers of this service, and there is a very considerable waste of time on the part of men whose time is valuable. With this increase, I think, we could house the additions that will have to be made to the services and also provide quarters for the Forest Service near the other branches of the department.

Senator WARREN. How much rent are you now paying?

Secretary HOUSTON. \$132,734, in Washington.

Senator WARREN. How much floor space do you require?

Secretary HOUSTON. I have not the figures here, Senator, but I can send them to you.

Senator WARREN. A year ago, I think it was (I forget whether in this bill or not), Senator Shafroth insisted on halting the proposition of taking down the buildings in these squares between the Capitol and Union Station, and preserving the Maltby Building for the use of the Agricultural Department. In the House I noticed there was rather an acrimonious but quite extended controversy or colloquy over what to do with that building. The Maltby Building stood unoccupied, and a report had come from the Agricultural Department that it was unfit for use, because it was an unsafe building. I was here when we bought that building. I occupied a portion of it with a Senate committee. It always had that reputation, when we bought it, of being unsafe, but we felt it would answer our purpose. That question ought to be settled, because as it stands now it does nobody any good and stands where the surroundings have been torn down. We ought to settle it sooner or later and repeal that law, unless it can be used for the Agricultural Department.

Senator SMITH of Georgia. Have we not a row of buildings straitened down that street to the next street?

Senator WARREN. I presume those are already purchased right down through there, and it is a queer position. I will say frankly that I did not favor the amendment when it went in, but the committee voted it in, and it stands there in that queer shape, and I think there ought to be emphatic statement from the department whether they can or can not use it. If they can not use it—and I dare say they know—we were going to use it for records and storage, and we found from our architect that we could not use it for that without bracing it up at a very large expense.

Senator SMITH of Georgia. I am very much opposed to renting buildings. I think it is a miserable waste of money to pay all this

rent. Of course, the department is not responsible for it, but we ought to put them right up at once, on a commercial, and not a fancy architectural, scale.

Secretary HOUSTON. I do not know whether we have an accurate estimate or not, but I shall send what data we have. The direct financial waste may be considerable, but not greater than the waste in the time of people whose time is valuable.

Senator WARREN. You have the figures for every building, the price paid, the percentage of income upon the assessed value, and also the floor space?

Secretary HOUSTON. Yes.

Senator WARREN. Most of it is very, very cheap.

Secretary HOUSTON. I think it is reasonable.

Senator WARREN. The buildings evidently would not bring in 8 or 4 per cent, or 2 per cent. Some of them are high.

Secretary HOUSTON. We made a careful report on the Maltby Building, of which I can send you a copy.

Senator WARREN. I would like to have a copy.

Secretary HOUSTON. The committee reported not only that the foundations were insecure but that it would cost approximately \$10,000 to put it in shape, and we did not have the money.

Senator RANDELL. Even if available, it was so unhandy to you that it would not do as a business proposition?

Senator SMITH of Georgia. Not permanently.

Secretary HOUSTON. There is scarcely a day when I do not have to have conferences with a member of the Forest Service—sometimes with several of them. It takes too much of their time to make trips back and forth.

Senator RANDELL. May I ask what are the estimates to complete the main Agricultural Building?

Secretary HOUSTON. I do not have them in mind.

Senator RANDELL. Why can we not finish that building? That is what we ought to do.

Secretary HOUSTON. I imagine that building, if finished, would not take care of the department even at present.

Senator SMITH of Georgia. We have plenty of ground, and we should proceed to put up commercial buildings, properly suited to the needs of the Agricultural Department, that would look very nice and yet be practicable.

Senator JOHNSON of South Dakota. You would not want to change the plan of the present building?

Senator SMITH of Georgia. Oh, no. I would like to see estimates for completing the main building, and then know how much you need for housing your people, on the plan of putting up commercial buildings that can be added to in order to meet the department's requirements.

The CHAIRMAN. We are supposed to have a commission charged with that duty now.

Secretary HOUSTON. Yes.

The CHAIRMAN. We would be glad to have that. We have thrashed it over several times.

Secretary HOUSTON. We could save money if we could make a lease for a period of five years.

Senator SHEPPARD. I want to ask the Secretary about the advisability of a news service covering the supply, market prices, and movements of live stock and meats, demanded by the live-stock associations throughout the country, and I have introduced an amendment to that effect, and I want to read it, Mr. Chairman [reading]:

To enable the Secretary of Agriculture to gather from stockmen, live-stock associations, State live-stock and agricultural boards, common carriers, stock-yards, commission firms, live-stock exchanges, slaughtering and meat-packing companies, and others information relative to the number of different classes and grades of marketable live stock, especially cattle, hogs, and sheep, in the principal live-stock feeding districts and growing sections; prices, receipts, and shipments of the different classes and grades of cattle, hogs, and sheep at live-stock market centers; prices of meats and meat food products and the amounts of such products in storage; to compile and publish such information at such frequent intervals as most effectively to guide producers, consumers, and distributors in the sale and purchase of live stock, meats, and other animal products; and to gather and publish any related information pertaining to marketing and distribution of live stock, meats, and animal by-products, the sum of \$65,000: *Provided*, That \$15,000 shall be immediately available, and that the balance shall be available until expended.

I think that meets an urgent need, and I understand that the various live-stock associations of the country are demanding information of this kind.

Senator JOHNSON of South Dakota. Does that create any new department, or just take it up under the present department?

Senator SHEPPARD. No, sir.

Secretary HOUSTON. This would be an extension of a market news service, Senator, which we have been carrying on for about a year, and for which we have asked an increase in the estimates. I do not know whether this committee has passed on the matter or not. I hope it will act favorably, because I regard the demonstration news service, which aims to show farmers that they can secure the necessary market news and discover where the best near-by market is, as essential and peculiarly valuable. This suggestion of Senator Sheppard's has special reference to live stock. I did not catch the amount suggested.

Senator SHEPPARD. \$65,000.

Secretary HOUSTON. I think it would be very desirable to undertake this additional work. The estimate is conservative.

Senator JOHNSON of South Dakota. That is an extension of the work you are already doing?

Secretary HOUSTON. Yes; with special reference to the marketing of live stock. We are getting many demands for information. You know the difficulties presented in the marketing of live stock. I think it is very necessary that the producers have the facts.

Senator SHEPPARD. The Wyoming Live Stock Growing Association has indorsed this proposition.

Secretary HOUSTON. The live-stock men have arranged to raise a fund themselves of about \$300,000 to study market conditions.

Senator WARREN. That is largely to take up the railroad and commission charges.

Secretary HOUSTON. They have offered to cooperate with the department.

Senator WARREN. But the origin of it was largely to take up the railroad and commission charges?

Secretary HOUSTON. Perhaps so.

Senator JOHNSON of South Dakota. Under what department would this come?

The CHAIRMAN. Under the Office of Markets and Rural Organization.

Secretary HOUSTON. Yes.

Senator JOHNSON of South Dakota. They are doing splendid work all along that line.

Senator SHEPPARD. I have introduced another amendment for special demonstrations in the matter of grading wool and mohair on farms. There is a decrease in the supply of wool and mohair which is becoming alarming; people who are engaged in the ordinary business of farming seem to have gone out of the sheep and goat business altogether, and it strikes me there ought to be a special study along that line. I want to ask the Secretary about that.

Secretary HOUSTON. What is your proposal, Senator?

Senator SHEPPARD. Special demonstration work in the matter of grading wool and mohair on farms, \$25,000. I wanted to get the Secretary's opinion on that while he is here.

Secretary HOUSTON. In this, as in other matters, there are undoubted possibilities. I think the money could be very profitably used.

Senator SHEPPARD. Is there not a special need right now for work along that line, in view of the decreasing supply of sheep on the rapidly decreasing lands?

Secretary HOUSTON. Undoubtedly. The experts of the department think that much could be done in a number of sections if the right methods were pursued and the proper types of sheep were used.

Senator SHEPPARD. I have a memorandum from which I want to read two paragraphs [reading]:

You are aware that there has been a progressive and alarming decrease in the number of sheep in this country during the past seven years, and I am assured that you appreciate the serious aspect of this matter as bearing upon the food and clothing supply of our people, and in addition to that its connection with the necessity of our Army and Navy in the event of any large operations.

There are many factors which have operated to develop this situation. For many years the great, cheap land areas of the far West showed great development of the sheep industry, but it is apparent to us that this section has reached its limit, and with the advent of farming element developing more extensively this section will rather decrease than increase its production.

Secretary HOUSTON. What section does that have reference to? I am told that the sheep industry in New England might be revived on unused lands if the farmers would grow sheep primarily for mutton and secondarily for wool.

Senator SHEPPARD. That was in reference to this amendment.

Senator JOHNSON of South Dakota. I want to ask the Secretary relative to the survey and platting of certain lands now listed in the national forest reserves, on page 39, commencing with line 3. What I wish to ask, Mr. Secretary, is whether or not you think it is good business for the Government to have all of these lands surveyed and platted and classified?

Secretary HOUSTON. Are you noting in that connection the item, just preceding, of \$100,000?

Senator JOHNSON of South Dakota. Yes; I have noticed that. But I have always been under the impression that we ought to take

all of the lands in those Western States where they have not been surveyed and survey and classify every section of land in the States.

Secretary HOUSTON. Classification of the lands in the national forests is being done under the preceding item. The next item has reference to surveys of individual tracts opened to entry under the forest homestead act. Under the \$100,000 item preceding the service is very vigorously pressing the classification. I agree with you as to the necessity for it.

Senator JOHNSON of South Dakota. My idea is that we need the classification not only in the forest reserve but in the public domain.

Secretary HOUSTON. I agree with you. I have been very much interested in seeing something done.

The CHAIRMAN. I would like for the Secretary to say, if he feels disposed, whether, as a general policy, he looks with favor on the cotton-futures bill?

Secretary HOUSTON. I think it is very essential that the cotton-futures bill be passed, and that very careful consideration be given to the specific language of the bill as it stands. It has been very carefully formulated and the suggestions of changes made have been very carefully studied, and studied in the light of the experience during the past year.

The CHAIRMAN. I tried to get that in the bill as to the grain grades.

Secretary HOUSTON. I am very heartily in favor of the grain-grades bill also and shall submit to the committee formally a few changes, with a view to a clarification of the language. I shall submit also a suggestion of an increase in the appropriation. This matter will reach you perhaps this afternoon or in the morning. I am also strongly in favor of the permissive warehouse bill. I believe that it will conduce to the orderly distribution of staple products and to the better financing of farming operations.

The CHAIRMAN. You regard the standardization of grades and proper warehousing as preliminary to an efficient general system?

Secretary HOUSTON. Yes.

Senator WARREN. I understand from the Secretary, in general terms, that he approves all of this cotton matter, and that he wants more money and slight changes in the other?

Secretary HOUSTON. I do. I am suggesting also, in the memoranda which I will leave with the committee, a few changes in the cotton futures and the warehouse bills. The suggestions regarding the grain-grades bill will be transmitted to the committee this afternoon or to-morrow morning. These bills have been very carefully considered. I think they will effect some highly desirable reforms in the handling of farm products. The cotton-futures act has been in operation for more than a year. I believe it has met with the support of the great majority of people. Section 11 has been objected to. Certain amendments have been suggested, and the House bill embodies changes. It seems not unlikely that at least one European cotton exchange will adopt the Government standards, and that such action would largely obviate the difficulties complained of. One thing the cotton-futures act does is to establish a standard to trade on. The grain-grades bill would lead to the establishment of standards for grain. I can not see how it will harm anybody to have a

known standard as a basis for trading. It is interesting to note that what is true in manufacturing is reversed in farming. I suppose most manufacturers know better what they are offering for sale than anybody else does, but comparatively few farmers are in position to know what they are offering for sale; they have no known standards to go by.

Senator GRONNA. You believe that the manufacturers would submit to standardization by the Federal Government?

Secretary HOUSTON. I do not think they need it; they know what they are turning out.

Senator GRONNA. Pardon me, Mr. Secretary. You say you want to standardize grain. What have you done, if you care to go into that, in your department to standardize wheat? You have been at it since 1907.

Secretary HOUSTON. The experts have not completed their work.

Senator GRONNA. You have spent \$700,000. Is there a single grade you have established in any of the grains in our markets?

Secretary HOUSTON. We have not fixed any except for corn, but considerable progress has been made in the work on other grains.

Senator GRONNA. Have you made a standard for corn on the moisture test only; not as to the amount of gluten or amount of meal contained in the corn?

Secretary HOUSTON. We have not completed standards for the other grains. However, a vast amount of the necessary data has already been accumulated to serve as a basis upon which to fix standards, especially for wheat and oats. Should the grain-grades bill, now pending as Part B of the bill, be enacted into law in its present form, which provides for modification of the grades as may be found necessary, standards for wheat and oats, and possibly some of the other grains, can be fixed within the next few months. But should the bill as finally enacted prohibit modifications of the standards, it is probable that the investigations would need to be extended over one or two more crops to make certain that the standards when fixed would not work a hardship on the producers.

While moisture content is a very important factor in the grading of grain in that it affects not only the quantity of meal or flour that can be manufactured therefrom, and is likewise the fundamental cause of the deterioration of grain during shipment or when stored in bulk, there are other factors that must be taken into consideration, such as degree of soundness, milling quality, foreign material or dockage, color, etc. All these points have been covered in corn grades and will likewise be given most careful consideration in the fixing of standards for the other grains. Gluten content is unquestionably of vital importance in wheat, and to secure information on this specific point experimental milling and baking tests have been made on more than 5,000 samples of wheat, representing different classes, varieties, and grades from all sections of the country.

With reference to the expenditures for these investigations since 1907, the committee should keep in mind that the work is not limited solely to the fixing of standards, but embodies investigations of the handling, grading, and transportation of grain, and covers every phase of grain handling from the time of harvest until it reaches the consumer. In this connection a most careful study has been made of

the export situation, concerning which the department has been receiving strong complaints for a number of years. In a similar way the investigations have enabled the department to describe the shrinkage and deterioration of grain during elevator storage or transit in cars; the handling and grading at country elevators and at primary markets; the adulteration of grain by the addition of weed seeds or grain of inferior quality or grade or of a different kind; the milling and feeding value of various grades of grain, and so on. In fact, the money appropriated has been used in a study of principles and conditions fundamental to better agricultural practices, of which grain handling and grading is an essential part.

Many publications containing some of the more important results of these investigations have been issued. Others are in manuscript form, and will be made available for distribution as soon as possible. (The publications issued are as follows:)

CIRCULARS OF THE BUREAU OF PLANT INDUSTRY.

- No. 32. Moisture Content and Shrinkage in Grain.
- No. 40. A Simple Method of Detecting Sulphured Barley and Oats.
- No. 43. The Deterioration of Corn in Storage.
- No. 55. American Export Corn (Maize) in Europe.
- No. 68. Handling Wheat from Field to Mill.
- No. 72. A Moisture Tester for Grain and Other Substances and How to Use It.
- No. 74. The Sulphur Bleaching of Commercial Oats and Barley.
- No. 81. The Shrinkage of Corn in Storage.
- No. 90. A Method for the Determination of the Specific Gravity of Wheat and Other Cereals.
- No. 111. Improved Apparatus for Detecting Sulphured Grain.

DEPARTMENT BULLETINS.

- No. 48. The Shrinkage of Shelled Corn While in Cars in Transit.
- No. 56. A Special Flask for the Rapid Determination of Water in Flour and Meal.
- No. 102. Acidity as a Factor in Determining the Degree of Soundness of Corn.
- No. 168. Grades for Commercial Corn.
- No. 237. A Device for Sampling Grain, Seeds, and other Material.
- No. 323. Importance and Character of the Milled Rice Imported into the United States.
- No. 328. Milling and Baking Tests of Wheat Containing Admixtures of Rye, Corn Cockle, Kinghead, and Vetch.
- No. 330. The Milling of Rice and Its Mechanical and Chemical Effect upon the Grain.
- No. 374. Tables of Comparative Intrinsic Values for Grain, Cotton Seed, Etc., Based on the Dry-Matter Content. (In press.)

YEARBOOK.

The Production and Handling of Grain in the Argentine.

Senator SMITH of Georgia. You regard it essential in the bill to make permissive deliveries within the Government standardization, do you?

Secretary HOUSTON. Yes.

Senator SMITH of Georgia. An effort to reduce it to a single sale and a single delivery?

Secretary HOUSTON. What are you speaking of, Senator, cotton?

Senator SMITH of Georgia. The New York Cotton Exchange.

Secretary **HOUSTON**. I should like to have Mr. Brand answer that. The **CHAIRMAN**. Is there anything further?

Secretary **HOUSTON**. I think not, except that I wish to leave all these memoranda, some of which I have not discussed, and ask your favorable consideration of them all.

(The memoranda referred to follow:)

Suggestions as to Changes in Agricultural Appropriation Bill for 1917.

OFFICE OF THE SECRETARY.

FARM MANAGEMENT.

Page 4, line 23, change "\$220,000" to "\$230,000," an increase of \$10,000.

NOTE.—Including transfers from the lump fund to the statutory roll, the department's estimates provided an increase for farm-management investigations of \$24,390. The House committee reduced this increase to \$14,390.

Only recently has systematic attention been devoted to a study of the fundamental principles involved in the business side of farming. It is necessary, of course, that a farmer should understand his farm in all its business aspects and know what changes he should make in its management to insure success. The subject of farm management, which deals with the farm as a whole, is one deserving of larger support. A good beginning has been made in this direction, but it is desirable to extend the work further in as many sections and communities of the Union as possible. It will not be possible to provide for the normal expansion and development of the work unless the increase recommended in the department's estimates is granted.

WEATHER BUREAU.

SALARY OF CHIEF, WEATHER BUREAU.

Page 5, line 9, change \$5,000 to \$6,000.

NOTE.—The department submitted this increase in the salary of the Chief of the Weather Bureau; the increase was approved by the House committee but was stricken out in the House on a point of order. This proposed increase would merely restore the salary of this officer to the amount paid from July 1, 1909, to July 1, 1914, when a reduction to \$5,000 was made in the Senate.

The Chief of the Weather Bureau is appointed by the President, and in the absence of the Secretary and the Assistant Secretary is authorized to act as Secretary of Agriculture. The work of the bureau is comparable to that of the Geological Survey, the Reclamation Service, the Bureau of Mines, the Bureau of Standards, the Bureau of Fisheries, and the Coast and Geodetic Survey. The salary of the chief of each of these bureaus is \$6,000, excepting the Reclamation Service, which is \$7,500. The Directors of the Bureau of the Census and the Public Health Service also receive \$6,000 per annum.

Prof. Marvin has been in the Government service for approximately 32 years. He was appointed Chief of the Weather Bureau on August 4, 1913. His selection was based on recognized scientific standing, attainments, and qualifications requisite for such a position. He has effected important reorganizations in the work of the bureau which have resulted in increased efficiency and economy of administration. The service has been steadily extended under his administration in many directions useful to the public, to agriculture, and to general meteorology. Recently he was appointed a member of the Advisory Committee on Aeronautics.

WEATHER BUREAU BUILDING ON PANAMA CANAL ZONE.

Page 9, between lines 1 and 2, and following the item for a building at Cape Henry, Va., the department submitted in its estimates and the House committee approved the following item:

"For the acquisition of a site and the erection of a building in the region of the Panama Canal, to be constructed under the supervision of the Chief of the Weather Bureau, plans and specifications to be approved by the Secretary of Agriculture, and for all necessary labor, materials, and expenses connected with this work, \$22,500."

NOTE.—It is essential to the proper prosecution of the work of the Weather Bureau in the Caribbean Sea region, for which authority is contained in the House bill, that some central station be established in that region. The most suitable and logical place for this station is at some point along the Panama Canal. In order that the work may be done effectively, a building which will provide suitable observatory and office accommodations, as well as living quarters for the observer, is required. The question has been raised, however, as to the possibility of securing for this purpose one of the buildings erected in connection with the canal operations. While it is considered problematical and decidedly doubtful that a suitable building, properly located for meteorological purposes, is available, the department does not feel inclined to urge that an appropriation be made at this time for the erection of a building at Panama, provided this action will not prejudice the inclusion of an item for this purpose in the next estimates if no suitable structure can be located.

BUREAU OF ANIMAL INDUSTRY.

DEMONSTRATION IN TICK-FREED AREAS.

Page 12, line 18, after the words "live stock" insert "and dairy."

NOTE.—The Solicitor suggests that this change be made in order to clearly authorize the department to conduct demonstration work in tick-freed areas in connection with creameries and cheese factories. The department believes that this work is essential to the most rapid development of dairying in the region which has been freed from ticks. The establishment of creameries and cheese factories in this region will make possible the profitable expansion of the dairy-cattle industry to an extent which otherwise would be impossible.

EQUIPMENT OF IDAHO SHEEP RANGE.

Page 13, line 18, change amount from "\$208,320" to "\$216,820," an increase of \$8,500.

NOTE.—During the latter part of the calendar year 1915 a tract of land was withdrawn from the public domain in Idaho for the use of the department in continuing experiments in the breeding of range sheep. This land is without any improvements whatever. In order that the department may properly care for the sheep considerable equipment, such as feed sheds, lambing sheds, corals and fences, wells to furnish water for the stock, and superintendent's and laborers' quarters will be necessary. The sum of \$5,000 has been set aside during the present fiscal year for the range sheep breeding investigations. In addition, the appropriation for animal-husbandry investigations, as passed by the House, carries an increase of \$5,000 for this work, so that \$10,000 will be available for the purpose in 1917. If this appropriation is further increased by \$8,500 it will be possible to so equip the land set aside that the investigations contemplated can be conducted in an effective manner.

Bills have been introduced in the House and the Senate to provide an appropriation of \$30,000 for the equipment and maintenance of the withdrawn land and the purchase of additional land on which to produce hay and grain. The department does not believe it will be necessary to secure additional land, and it is thought that \$8,500, in addition to the sums included in the House bill, will be sufficient to provide the necessary equipment. The withdrawn land will furnish spring and fall range, the sheep can graze on a national forest near by in the summer, and the winter feed will be purchased. It is thought that the best results can be secured through this arrangement.

FOREST SERVICE.

SALARY OF SUPERVISOR, ALASKA FORESTS.

Page 27, line 5, change "\$2,600" to "\$2,800," an increase of \$200.

NOTE.—This change provides an increase in the salary of the forest supervisor of the Chugach and Tongass National Forests in Alaska. The present salary, which was provided four years ago, has been found to be inadequate in view of the high cost of living and other unusual expenses incident to residence

in Alaska. It is exceedingly difficult to get the right man for this place, and the supervisor now assigned to the position is a picked man with special qualifications and with years of experience in administering the national forests.

This increase of \$200 was proposed in the department's estimates and was approved by the House committee, but was stricken out in the House on a point of order made by Representative Humphrey, who stated that he had no objection to the supervisor or to the promotion as such, but that he made the point of order as a protest against having any national forests in Alaska.

WASHINGTON ADMINISTRATIVE EXPENSES, WEEKS FORESTRY LAW.

Page 42, line 6, strike out "\$15,000" and insert in lieu thereof "\$25,000."

Page 42, line 7, after "agents," insert the words "title attorneys," followed by a comma.

Page 42, line 6, after the word "therein," insert a comma and the words "or for carrying out its purposes," followed by a comma.

NOTE.—At present reports on title examination of lands in course of acquisition under the Weeks forestry law, prepared in the field by title attorneys of this department, are referred to the United States attorneys for the respective judicial districts in which the several parcels are located for the preparation of opinions as to the sufficiency of the title. When condemnation is recommended by this department the United States attorneys customarily prepare the petitions to the court therefor. Offices of the United States attorneys are so crowded with other business that this procedure causes long delays. Much of these delays could be avoided—indeed, it is believed that they could be reduced to a minimum—if this department were authorized to transfer to Washington some of its more experienced title attorneys for the purpose of having them, instead of the United States attorneys, review the reports and draft the condemnation petitions previous to the reports or the requests for condemnation being transmitted to the Department of Justice. Such transfer would be essential in order to enable the Solicitor of this department effectively to supervise and direct the kind of new activities which the scheme contemplates that this department would undertake. It is understood that similar work in the Interior Department under the reclamation statutes is handled in Washington in the way here proposed.

The object in asking that the amount of the appropriation for carrying out the provisions of the Weeks law which is made available for expenditure in Washington be increased \$10,000 is to enable this department to put this plan into effect. While the change suggested would result in this department doing some work which the Department of Justice now does, in the end the cost to the Government would be no greater; it is believed it would be much less. The reduction of the delay in finally concluding purchases and condemnations would eventually be an economy; it would also be a great satisfaction to the sellers of lands.

By the use, in line 6, of the word "therein," the privilege of expenditure in Washington is restricted to moneys already appropriated by the original Weeks forestry act of March 1, 1911, described in lines 24 and 25, page 41, and lines 1 to 6, page 42. If the words suggested to follow "therein" were incorporated in the bill, the same privilege would be applicable to any other moneys appropriated for carrying out the provisions of that statute during the next fiscal year. If the change were not made and the original Weeks law appropriation were exhausted before the end of the next fiscal year, the work in Washington which in the past has been sanctioned, and is sanctioned in the bill as it passed the House, necessarily would have to be discontinued, although another appropriation had been meanwhile made for carrying out the provisions of the Weeks law.

BUREAU OF CHEMISTRY.

STATUTORY SALARIES, BUREAU OF CHEMISTRY.

Page 43, lines 2 to 5, change "twenty-three clerks, class one" to "twenty-six clerks, class one"; change "thirty-four clerks, at \$900 each" to "thirty clerks, at \$900 each."

NOTE.—The change here proposed will not affect the total appropriation for salaries. The Bureau of Chemistry has experienced great difficulty in securing competent male stenographers for \$900 per annum. In many cases it is impossible to hold efficient male clerks at this low salary. They frequently

resign after a year's service, at a time when they are, on account of the experience gained, becoming most valuable. The changes suggested will not involve any promotions, and, as they are in the interest of good administration, it is hoped that the committee will approve them.

POULTRY AND EGG INVESTIGATIONS.

Page 45, line 13, change amount from "\$40,000" to "\$49,000," an increase of \$9,000.

NOTE.—The current appropriation act carries \$40,000 for poultry and egg investigations. The department submitted an increase of \$9,000, but this was not allowed by the House committee.

The poultry and egg work is one of the most important lines of investigations, from an economic standpoint, which the Bureau of Chemistry is conducting. It has resulted in many improvements in the poultry and egg industry. Valuable methods for handling, packing, storing, and shipping poultry and eggs have been worked out. There is demand for practical demonstration of these methods in many poultry-producing sections. In order to do the work properly and to continue the basic research work, the increase suggested is essential.

FOOD AND DRUGS ACT.

Page 46, line 23, change "\$632,951" to "\$657,951," an increase of \$25,000.

NOTE.—The department submitted in its estimates an increase of \$50,000 in the appropriation for the enforcement of the food and drugs act (including transfers to the statutory roll), but the House committee allowed only \$25,000. The additional increase of \$25,000 in this item is urgently needed for the following reasons:

1. The great increases in the prices of chemicals and laboratory apparatus used in the analyses of foods and drugs, the advance in some cases being as much as 500 per cent, and in many cases as much as 300 per cent. By actual computation it has been found that the increases in prices of one year's supplies of chemicals and apparatus amount to over \$26,000. It is probable that these prices will be still further advanced.

2. A large number of Sherley amendment cases will be brought to trial next year, some of which will be strongly contested, involving additional expense.

3. The net-weight amendment will increase the number of cases and add to the expense of enforcing the law.

BUREAU OF SOILS.

POTASH INVESTIGATION AND DEMONSTRATION.

Page 48, insert a new paragraph between lines 22 and 23, as follows:

"For investigation and demonstration within the United States to determine the best methods of obtaining potash on a commercial scale, including the purchase or rent of lands and buildings and the erection of buildings and other structures necessary therefor, \$175,000."

NOTE.—In a letter to the House committee the department recommended that this provision be included in the bill. The matter was also brought to the attention of the Senate committee. The item was proposed as a committee amendment on the floor of the House, but was stricken out on a point of order.

It is not necessary to go into the potash situation here. In response to a resolution adopted by the Senate the facts have been laid before the Congress and referred to the Senate Committee on Agriculture and Forestry. (S. Doc. No. 262.)

The sum suggested will enable the department to erect and operate a plant on the Pacific coast to experiment, on a commercial scale, with methods of extracting potash from kelp, with a view to determine whether kelp can be used as a commercial source of potash for agricultural purposes in normal times. The plant and the methods worked out by the department will serve as a demonstration to those interested in the production of potash from kelp. The laboratory experiments of the Bureau of Soils indicate strongly that it is possible to transport potash secured from kelp to the Atlantic seaboard and sell it at a profit in competition with German salts. Whether or not this can be done, however, can be definitely determined only by a plant of commercial size.

If the appropriation suggested is made it is proposed to use \$150,000 for the erection of the plant, including wharfage facilities, and the purchase or construction of a harvester, barges, and tugs. After the plant is completed it is estimated that \$25,000 will be required to operate it during the remainder of the fiscal year.

SOIL-SURVEY INVESTIGATIONS.

Page 49, line 3, change "\$168,200" to "\$198,200," an increase of \$30,000.

NOTE.—The department estimates contained an increase of \$30,000 for soil-survey investigations, but the increase was not allowed by the committee. The soil-survey work of the department is conducted in cooperation with the States. During the past year it has been necessary to decline cooperation in several instances on account of lack of funds. The increase recommended would make it possible to cooperate with a limited number of those States having funds available for soil-survey investigations and desirous of having the work undertaken. Since the States contribute an amount approximately equal to that paid by the department, it will be seen that this cooperation means to the department nearly double the results for each dollar of appropriation expended.

BUREAU OF ENTOMOLOGY.

HESSIAN-FLY INVESTIGATIONS.

Page 50, line 23, after the word "crops," insert the words "including a special investigation of the Hessian fly"; and change "\$114,660" to "\$119,660," an increase of \$5,000.

NOTE.—The department is now spending about \$5,000 annually in an investigation of the Hessian fly. In view of the great damage caused by this insect to the wheat crop, and the urgent demand from the growers that the department press its campaign for the control of this pest, it is believed that the funds available for the investigation of the Hessian fly should be increased by \$5,000. During the hearings before the House committee it seemed the feeling of some members that the department was not spending enough money on this project, and during the discussion of the bill on the floor of the House an effort was made to increase the amount for this purpose by \$50,000. Within the past year and a half two publications and a chart have been issued on the subject, but there are certain phases of the department's investigations which need further study before definite control measures can be recommended with absolute assurance, especially with regard to the general law which may underlie the time of sowing and the dependence of this time upon not only latitude and longitude, but altitude as well. A series of experiments to determine the proper planting date for fly-free wheat in three zones—one west of the Mississippi River, one from the Mississippi River to the Appalachian Range, and one from the Appalachian Range to the Atlantic coast—should be undertaken. These experiments should be carried through a period of at least three years, and it is estimated that the work would cost about \$5,000 a year.

BUREAU OF BIOLOGICAL SURVEY.

DESTRUCTION OF PREDATORY WILD ANIMALS—SUPPRESSION OF RABIES.

Page 55, line 9, insert a comma after the word "forests," strike out the word "and," insert a comma after the word "domain," and add the words "and elsewhere," so that the line will read: "be used on the national forests, the public domain, and elsewhere in."

NOTE.—The committee is familiar with the situation resulting from the serious outbreak of rabies among coyotes in the Northwestern States. Upon the recommendation of the department an appropriation of \$75,000 was included in the urgent deficiency bill to enable the department to cooperate with the States concerned in the suppression of the disease through the destruction of the animals by which it is spread. As this sum will provide for the work only during the remainder of the present fiscal year, the department transmitted to the Congress on February 2, 1916, a supplemental estimate of \$125,000 for inclusion in the Agriculture appropriation bill, in order that the work might be continued during the next fiscal year. It was suggested that a proviso carrying this sum be added to the appropriation "for investigating the food habits of North

American birds and mammals," page 54, line 21. The House committee included the proviso in the bill, but it was eliminated on a point of order. The chairman of the House committee then offered an amendment to increase from \$125,000 to \$250,000 the appropriation carried by the proviso authorizing the destruction, on the national forests and the public domain, of wolves, coyotes, and other animals injurious to agriculture and animal husbandry. This amendment was adopted by the House. As the bill now stands the department will be restricted in its operations to the national forests and the public domain. While this restriction is unobjectionable in the predatory-animal work, it would narrow the usefulness of the campaign for the suppression of rabies in wild animals and make its accomplishment much more difficult. It is suggested, therefore, that instead of restoring the paragraph eliminated on the floor of the House the word "and" be eliminated after the word "forests" and the words "and elsewhere" be inserted after the word "domain."

MISCELLANEOUS EXPENSES.

Page 61, line 2, change "\$115,000" to "\$130,000," an increase of \$15,000.

NOTE.—The current appropriation act carries \$115,000 for the purchase of stationery, blank books, twine, paper, mechanics' supplies, furniture, etc. No increase was submitted in the department estimates for 1917. At the time the estimates were prepared it was believed that, with strict economy, this sum would be sufficient to cover the expenses for the next fiscal year. Since that time large increases have occurred in the prices of many articles required for the service of the department and purchasable from this appropriation. For example, the prices of stationery and drafting supplies have advanced from 20 to 30 per cent; hardware, metals, and leather, 45 per cent; cloth bags, window shades, and cordage, 35 per cent; electrical and plumbing supplies, 50 per cent; paints, oils, glass, and brushes, 20 per cent, and so on. In view of these facts it is recommended that an increase of \$15,000 in this appropriation be allowed by the Senate committee.

STATES RELATIONS SERVICE.

STATUTORY SALARIES, STATES RELATIONS SERVICE.

Page 61, lines 17 to 19, change "nineteen clerks, at \$1,000 each" to "twenty-one clerks, at \$1,000 each," and change "eight clerks, at \$720 each" to "five clerks, at \$720 each."

NOTE.—This will increase the number of \$1,000 clerks by two, and reduce the number of \$720 clerks by three, resulting in a net saving of \$160. The department has found it almost impossible to secure competent clerical assistance at \$720 per annum. In many cases employees appointed at this low salary serve a comparatively short time and then leave the service to accept more remunerative positions. The changes suggested will not involve any promotions, and, as they are in the interest of good administration, it is hoped that the committee will approve them.

OFFICE OF PUBLIC ROADS AND RURAL ENGINEERING.

SALARY OF DIRECTOR, OFFICE OF PUBLIC ROADS AND RURAL ENGINEERING.

Page 65, line 25, change "\$4,500" to "\$5,000," an increase of \$500.

NOTE.—This increase in the salary of the Director of the Office of Public Roads and Rural Engineering was included in the department estimates, and was approved by the House committee, but was eliminated on a point of order.

The director of this office has been in the service of the department about 15 years. The work of the Office of Public Roads and Rural Engineering is constantly growing in importance, and the responsibilities of the director were considerably increased when the work of the department was reorganized. In addition to the work relating to roads, he is now charged with the direction of the investigations in farm irrigation, farm drainage, and miscellaneous problems in rural engineering. The increase recommended will make his compensation conform to that received by the chiefs of other scientific bureaus in the department having similar responsibilities.

ROAD-MATERIAL INVESTIGATIONS.

Page 67, line 17, change "\$37,780" to "\$42,780," an increase of \$5,000.

NOTE.—The department's estimate for investigations of the chemical and physical character of road materials was \$42,780, which, taking into consideration transfers to the statutory roll, represents an increase of \$10,000 over the current appropriation. The House committee allowed only \$5,000. It is recommended that this amount be increased by \$5,000 to provide for the adequate prosecution of the work on concrete now under way. In order to carry on the investigations contemplated it will be necessary to engage four additional assistant testing engineers, at salaries aggregating \$6,600, with traveling expenses estimated at \$800 and supplies and equipment at \$2,600.

RURAL ENGINEERING.

Page 69, line 11, change "\$20,000" to "\$27,805," an increase of \$7,805.

NOTE.—The amount carried in the current appropriation act for the investigation of rural engineering problems is \$12,805. The department's estimates called for an increase of \$15,000, but only \$7,195 of this amount was allowed by the House committee. It is recommended that the item be further increased by \$7,805.

It is proposed to use the additional \$15,000 in making studies of farm domestic-water supply, farm drainage disposal, the construction of farm buildings and other structures, and other rural engineering problems involving mechanical principles. The present small appropriation is barely sufficient to start the work in rural engineering, and this increase is urgently needed. It is desired to aid the farmer in securing a pure and adequate water supply for household purposes and for farming operations. Work should also be done upon farm drainage disposal and studies carried on relating to the construction of farm buildings and other structures in the interest of the comfort and well-being of the farmer's family and the proper care of his live stock. In addition, it is proposed to cooperate with manufacturers in standardizing farm equipment of all kinds. This should tend to reduce the first cost of machinery and also the cost of repairs and upkeep. It is also planned to continue studies upon the mechanical efficiency of spraying outfits and to conduct further studies of the thrashing-machine explosions which have occurred with such frequency throughout the Northwest.

OFFICE OF MARKETS AND RURAL ORGANIZATION.

COTTON STANDARDS.

Page 71, line 7, strike out the words "the investigation and demonstration," and substitute therefor the words "investigating, demonstrating, and promoting the use."

NOTE.—For the purposes of the United States cotton-futures act, the quotations of the bona fide spot markets designated by the Secretary of Agriculture must be based on the official cotton standards of the United States, and are used in arriving at the commercial differences in settling contracts of sale of cotton for future delivery made on the exchanges.

It is essential that the practical forms of the standards which are used for these purposes shall always accurately represent the original standards, in order that the resulting quotations may constantly reflect the true values of spot cotton.

As constant use renders these practical forms subject to change and deterioration, it is desirable that they should be frequently inspected, and, from time to time, replaced. The consequent expense to the purchasers is somewhat of a hardship and may have a tendency to limit the distribution.

It is believed to be desirable that authority be given the Secretary of Agriculture to place copies of the standards in the spot markets and on the exchanges, and to replace them from time to time in his discretion, free of cost to the persons using them. In this way the use of the standards would be promoted and the purposes of the act more completely carried out.

Under the United States cotton-futures act practical forms of the official cotton standards of the United States may be furnished only on request and payment of the cost thereof. It is believed, under the authority contained in the language of line 7, page 71, without the change suggested, that the Secretary

of Agriculture would be unable to make the desired distribution and replacement free of cost to the spot markets and exchanges concerned, as the purpose contemplated does not seem to come within the grant of authority to demonstrate the standards.

STATE COOPERATION IN MARKETING WORK.

Page 72, line 5, change "\$20,000" to "\$35,000," an increase of \$15,000.

NOTE.—The amount submitted in the department's estimates for State cooperation in marketing work was \$35,000. This sum was reduced by the House committee to \$20,000.

Under this item it is proposed to employ market advisers and other assistants in cooperation with the States which appropriate money for marketing purposes. While heretofore no definite provision has been made for work of this character, allotments have been made from available funds for special cooperative market investigations and demonstrations in five States. A large number of States have appropriated funds for marketing work, and definite requests for the assistance of the Federal Government have been received from 28. The work proposed to be conducted under this item will serve to coordinate the investigations of the department relating to marketing with similar activities undertaken by the individual States. It is believed that the most effective means of accomplishing this coordination is the cooperative employment of market advisers to be stationed in the respective States. This plan also undoubtedly will bring about a desirable degree of uniformity in the conduct of the marketing activities of a large number of States.

The salaries and expenses of the market advisers will be borne jointly by the Federal Government and the States. With an appropriation of \$35,000, it will be possible to utilize the services of 20 men during the next fiscal year. It is estimated that \$1,500 will cover the department's share of the salary and traveling expenses of each man. In addition, \$5,000 is needed to cover traveling expenses of the persons assigned to select the men, to supervise the work, and to coordinate the activities of the several State agents.

It has not been possible to consummate arrangements with the following States which have applied for cooperation:

Arizona: Stanley P. Morse, superintendent of extension service, University of Arizona, Tucson, Ariz.

Colorado: H. T. French, director of extension and State leader, United States Department of Agriculture, Fort Collins, Colo.

Georgia: Dr. Andrew M. Soule, president State College of Agriculture, Athens, Ga.

Idaho: W. G. Scholtz, director Idaho Department of Farm Markets, Twin Falls, Idaho.

Iowa: R. K. Bliss, director agricultural extension department, Iowa State College, Ames, Iowa.

Kansas: J. H. Miller, director cooperative agricultural extension work, Kansas State College of Agriculture, Manhattan, Kans.

Kentucky: E. S. Good, experiment station, Lexington, Ky.

Maine: W. T. Guptill, commissioner department of agriculture, Augusta, Me.

Michigan: H. D. Wendt, dairy and food department, Lansing, Mich.

Missouri: John Bland, secretary Missouri State Board of Horticulture, Columbus, Mo.

Montana: F. S. Cooley, director of extension service, Montana State College of Agriculture, Bozeman, Mont.

New Mexico: William C. McDonald, governor of New Mexico, Santa Fe, N. Mex.

New York: Dr. B. T. Galloway, dean New York State College of Agriculture, Ithaca, N. Y.

New York: John J. Dillon, commissioner of foods and markets, New York City.

North Carolina: Dr. B. W. Kilgore, director North Carolina Agricultural Experiment Station, Raleigh, N. C.

North Dakota: Thomas P. Cooper, director North Dakota Agricultural Experiment Station, Agricultural College, N. Dak.

Oklahoma: N. W. Moorhouse, dean school of commerce and marketing, State College of Agriculture, Stillwater, Okla.; W. L. Carlyle, dean Oklahoma Agricultural College, Stillwater, Okla.

COTTON-FUTURES ACT.

Page 72, lines 13 to 18, strike out the words "Act approved August eighteenth, nineteen hundred and fourteen (Public, Numbered One hundred and seventy-four, Sixty-third Congress), entitled 'An act to tax the privilege of dealing on exchanges, boards of trade, and similar places in contracts of sale of cotton for future delivery, and for other purposes,'" and insert in lieu thereof the words "United States cotton-futures act."

NOTE.—The necessity for this change grows out of the fact that Part A of the bill as it passed the House repeals the act of August 18, 1914. To avoid confusion and to provide certainly for the appropriation, whether Part A is passed by the Senate or not, it is sufficient to use the short title of the statute as suggested.

INSECTICIDE ACT.

Page 73, line 23, change "\$80,410" to "\$85,670," an increase of \$5,260.

NOTE.—The total appropriation for the enforcement of the insecticide act carried in the current appropriation act is \$100,000. Including transfers to a new statutory roll, the department estimates for 1917 aggregated \$110,260, or an increase of \$10,260. Of this increase, the House committee allowed \$5,000.

Up to last July the inspection force connected with the Insecticide and Fungicide Board consisted of only three men. On July 1, 1915, an increase of \$5,000 in the appropriation became available, but practically the entire amount was used in paying the salaries and necessary expenses of two additional inspectors, whose services were badly needed to enable the department to cover the United States. It was impossible to employ additional scientific help to examine and test the extra samples collected by the two inspectors.

In addition to the work on insecticides and fungicides, a preliminary survey has shown that many of the disinfectants and germicides sold in interstate commerce are adulterated and misbranded. The department is charged under the law with the inspection of these materials, but the work has necessarily been neglected, owing to the lack of funds to employ adequate scientific assistance.

In order to provide for this normal expansion and the probable increase in the number of violations and in the cost of trials it is urged that the full amount estimated by the department be allowed by the Senate committee.

FEDERAL HORTICULTURAL BOARD.

PLANT-QUARANTINE ACT.

Page 74, insert the following new paragraph between lines 20 and 21:

"That section eight of the act approved August twentieth, nineteen hundred and twelve (Thirty-seventh Statutes at Large, page three hundred and fifteen), entitled 'An act to regulate the importation of nursery stock and other plants and plant products; to enable the Secretary of Agriculture to establish and maintain quarantine districts for plant diseases and insect pests; to permit and regulate the movement of fruits, plants, and vegetables therefrom, and for other purposes,' be, and the same hereby is, amended so as to read as follows:

"SEC. 8. That hereafter the Secretary of Agriculture is authorized and directed to quarantine any State, Territory, or District of the United States, or any portion thereof, when he shall determine the fact that a dangerous plant disease or insect infestation, new to or not theretofore widely prevalent or distributed within and throughout the United States, exists in such State or Territory or District, and the Secretary of Agriculture is directed to give notice of the establishment of such quarantine to common carriers doing business in or through such quarantined area, and shall publish in such newspapers in the quarantined area as he shall select notice of the establishment of quarantine. That no person shall ship or offer for shipment to any common carrier, nor shall any common carrier receive for transportation or transport, nor shall any person carry or transport from any quarantined State or Territory or District of the United States, or from any quarantined portion thereof, into or through any other State or Territory or District, any class of nursery stock or any other class of plants, fruits, vegetables, roots, bulbs, seeds, or other plant products, or any class of stone or quarry products, or any other article of any character whatsoever capable of carrying any dangerous plant diseases or insect infesta-

tion specified in the notice of quarantine, except as hereinafter provided. That it shall be unlawful to move, or allow to be moved, any class of nursery stock or any other class of plants, fruits, vegetables, roots, bulbs, seeds, or other plant products or any class of stone or quarry products, or any other article of any character whatsoever capable of carrying any dangerous plant diseases or insect infestation specified in the notice of quarantine hereinbefore provided, and regardless of the use for which the same is intended, from any quarantined State or Territory or District of the United States, or quarantined portion thereof, into or through any other State or Territory or District, in manner or method or under conditions other than those prescribed by the Secretary of Agriculture. That it shall be the duty of the Secretary of Agriculture, when the public interests will permit, to make and promulgate rules and regulations which shall permit and govern the inspection, disinfection, certification, and method and manner of delivery and shipment of the class of nursery stock or of any other class of plants, fruits, vegetables, roots, bulbs, seeds, or other plant products, or any class of stone or quarry products, or any other article of any character whatsoever capable of carrying any dangerous plant disease or insect infestation specified in the notice of quarantine hereinbefore provided and regardless of the use for which the same is intended, from a quarantined State or Territory or District of the United States, or quarantined portion thereof, into or through any other State or Territory or District; and the Secretary of Agriculture shall give notice of such rules and regulations as hereinbefore provided in this section for the notice of the establishment of quarantine: *Provided*, That before the Secretary of Agriculture shall promulgate his determination that it is necessary to quarantine any State, Territory, or District of the United States, or portion thereof, under the authority given in this section, he shall, after due notice to interested parties, give a public hearing under such rules and regulations as he shall prescribe, at which hearing any interested party may appear and be heard, either in person or by attorney."

NOTE.—In the current agricultural appropriation act provision is made, under the paragraph for "Preventing spread of moths, Bureau of Entomology," that, in order to meet the emergency caused by the continued spread of the gipsy and brown-tail moths, the Secretary is authorized to establish and maintain a quarantine in cooperation with the States. This act contains no penal provisions, and consequently has failed to meet the situation. The language herewith proposed, if enacted into law, will correct this defect by amending section 8 of the plant quarantine act so as to include the provisions in regard to the gipsy and brown-tail moth quarantine, and it will also confer upon the Secretary the power absolutely to prohibit interstate shipment of all products that will carry any dangerous plant diseases or insect infestation.

These changes, if adopted, will amend section 8 by inserting in the seventeenth, twenty-first, and thirty-second lines thereof, after the words, "or other plant products," the words "or any class of stone or quarry products, or any other article of any character whatsoever capable of carrying any dangerous plant disease or insect infestation," and in line 27, after the words, "Secretary of Agriculture," the words, "when the public interests will permit."

The insertion of the clause, "when the public interests will permit," follows the phraseology of section 3 of the cattle-quarantine act of March 3, 1905 (33 Stat., 1264), and is believed to be advisable so as to establish beyond question the right of the Secretary to establish and maintain a quarantine.

The changes herein suggested are deemed necessary to enable the department effectively to carry out the purpose of the plant-quarantine act.

COTTON FUTURES AND GRAIN GRADES ACTS, PARTS A AND B.

The Secretary also submitted memoranda of changes recommended in the cotton-futures amendment and in the grain-grades amendment, which have been incorporated in the hearings on those subjects.

WAREHOUSE ACT, PART C.

Page 104, line 1, insert "hay," at the beginning of the line; strike out the word "and"; after the word "flaxseed," insert the words "and seeds."

NOTE.—It is thought that the additional commodities mentioned should be brought within the provisions of the act.

MISCELLANEOUS.

PASSENGER-CARRYING VEHICLES.

Page 119, lines 17 to 25, and page 120, lines 1 to 8, in lieu of the item in the House bill it is suggested that the following paragraph be substituted:

"PASSENGER-CARRYING VEHICLES: That not to exceed \$70,000 of the lump-sum appropriations herein made for the Department of Agriculture shall be available for the purchase, maintenance, repair, and operation of motor-propelled and horse-drawn passenger-carrying vehicles necessary in the conduct of the field work of the Department of Agriculture outside the District of Columbia: *Provided*, That the Secretary of Agriculture shall, on the first day of each regular session of Congress, make a report to Congress showing the amount expended under the provisions of this paragraph during the preceding fiscal year.

"That hereafter section five of the legislative, executive, and judicial appropriation act, approved July sixteenth, nineteen hundred and fourteen (Thirty-eighth Statutes at Large, five hundred and eight), shall not be construed to apply to the hire of motor-propelled and horse-drawn passenger-carrying vehicles necessary in the conduct of the field work of the Department of Agriculture, or to the maintenance, repair, or operation of vehicles so hired; and such vehicles may be hired from employees or other persons and the expense or compensation, on account of such hire, and reimbursement of employees for the expense of the use of their own vehicles exclusively on official business may be paid out of any appropriation under which the field work of the Department of Agriculture in connection with which such vehicles are used is authorized, subject to such rules and regulations as may be prescribed by the Secretary of Agriculture.

"That hereafter the Secretary of Agriculture may exchange motor-propelled and horse-drawn passenger-carrying vehicles in part payment for new motor-propelled or horse-drawn passenger-carrying vehicles authorized to be purchased by him, to be used for the same purposes as those proposed to be exchanged, and shall, on the first day of each regular session of Congress, make a report to Congress for the fiscal year last closed showing, as to each exchange hereunder, the make of the vehicle, the period of its use, the allowance therefor, and the vehicle, make thereof, and price, including exchange value, paid, or to be paid, for each vehicle procured through such exchange."

NOTE.—This item is fully explained in the letter written to the chairman of the House committee on February 8, 1916. A copy of this letter is attached hereto. I earnestly hope that the committee will approve the language submitted.

FEBRUARY 8, 1916.

HON. A. F. LEVER,

Chairman Committee on Agriculture, House of Representatives.

DEAR MR. LEVER: Section 5 of the act of July 16, 1914 (38 Stat., 508), provides:

"No appropriation made under this or any other act shall be available for the purchase of any motor-propelled or horse-drawn passenger-carrying vehicle for the service of any of the executive departments or other Government establishments, or any branch of the Government service, unless specific authority is given therefor, and after the close of the fiscal year one thousand nine hundred and fifteen, there shall not be expended out of any appropriation made by Congress any sum for purchase, maintenance, repair, or operation of motor-propelled or horse-drawn passenger-carrying vehicles for any branch of the public service of the United States unless the same is specifically authorized by law, and in the estimates for the fiscal year one thousand nine hundred and sixteen and subsequent fiscal years, there shall be submitted in detail estimates for such necessary appropriations as are intended to be used for purchase, maintenance, repair, or operation of all motor-propelled or horse-drawn passenger-carrying vehicles, specifying the sums required, the public purposes for which said vehicles are intended, and the officials or employees by whom the same will be used."

The current appropriation act for this department (38 Stat., 1115) contains the following provision:

"That not to exceed \$55,000 of the lump-sum appropriations herein made for the Department of Agriculture shall be available for the purchase, maintenance, repair, and operation of motor-propelled and horse-drawn passenger-carrying vehicles and motor boats necessary in the conduct of the field work of

the Department of Agriculture outside the District of Columbia: *Provided*, That not to exceed \$5,000 of this amount shall be expended for the purchase of such vehicles and boats, and that such vehicles and boats shall be used only for official service outside the District of Columbia, but this shall not prevent the continued use for official service of motor trucks in the District of Columbia: *Provided further*, That the Secretary of Agriculture shall, on the first day of each regular session of Congress, make a report to Congress showing the amount expended under the provisions of this paragraph during the preceding fiscal year."

This item is also included in the estimates of appropriations required for the Department of Agriculture for the fiscal year ending June 30, 1917, in paragraph (5), page 214, except that the amounts named are \$70,000 and \$10,000, respectively.

On October 15, 1915, the Comptroller of the Treasury decided that section 5 of the act of July 16, 1914, and the item of the current appropriation act above set out, applied primarily to vehicles and boats which were purchased, owned, and operated by the Government. However, it was further stated:

"When the vehicle or boat has been rented by the Government for a month or year, or for any definite or indefinite period of time, and is continuously operated and controlled by Government agencies, as distinguished from hiring for a single trip, it is for the time being, and for the purposes of these acts, a Government vehicle, as much so as if it had been purchased and owned by the Government, and the expense for its repair, maintenance, and operation is subject to the provisions of these statutes in the same manner and to the same extent as like expenses of Government-owned vehicles.

"The term 'purchase' as used in this connection covers the initial expense of obtaining the vehicle or boat, whether by acquiring a right of property in it, or a right to temporary possession and control of it."

He then held that the expense of hiring such vehicles and boats by the month, or year, or continuously by the trip, is chargeable to the reservation of \$50,000 for maintenance, repairs, and operation. A copy of this decision is inclosed.

1. In conducting the field work of the Department of Agriculture conditions frequently arise under which it becomes necessary to hire a special conveyance to make trips covering periods of time ranging from a day to several months. The conditions arise sometimes by reason of the fact that there is no public or regular means of transportation through the territory to be traveled, sometimes because such public or regular means of transportation can not be used advantageously in the interests of the Government. It is impossible to foresee all, or even the greater part of the conditions, and, therefore, to estimate the amounts necessary to carry on such work.

The extensive and rapidly growing field work of the department has already been hampered by such restrictions on the use of passenger-carrying vehicles, and if the decision of the Comptroller, cited above, be applied literally to the fiscal year 1917 it will seriously disorganize field campaigns in a large number of the bureaus.

The distances covered in this field work are very great, and it is often necessary for the individual employee to travel several days continuously from a given base, during which time any vehicle used for the purpose must necessarily be under the control of Government agencies.

Under the rule announced by the Comptroller, if every exigency of field travel be not foreseen, and provision made therefor in the appropriation for purchase of motor-propelled and horse-drawn passenger-carrying vehicles, no fund will be available to meet the expense of such travel, and the work, no matter how urgent or necessary, can not be performed. In such case, it will be necessary to hire livery by the day or by the trip, instead of by the month; resulting, ordinarily, in greater expenses to the Government. Thus it seems desirable that Congress specifically except the hire of motor-propelled and horse-drawn passenger-carrying vehicles from the application of section 5 of the act of July 16, 1914.

2. It is often found to be more economical in conducting field work to hire a horse-drawn or motor-propelled vehicle from an employee and reimburse him on a mileage basis, or by the month, than it is to hire such vehicle from a stable or garage.

The Comptroller of the Treasury has held—

"Under conditions existing in the Forest Service the employees thereof could be authorized to be paid, as a part of their compensation, fixed rates per mile

for the use of their own motor cycles and automobiles in official work, if the allowed rate per mile does not exceed the actual cost of operation and if the travel is limited strictly to official business.

"This decision follows prior decisions to the effect that, when compensation is fixed by administrative action, and not by law, it is within the discretion of the proper administrative officer to allow a fixed rate of pay for the official use by the employee of his own team and conveyance as a part of his compensation, but not as a commutation of traveling expenses; that is, the gross compensation agreed on in advance to be paid to such employee is indivisible and is paid him in consideration of personal service performed by him with his outfit, and is not affected by the mileage made by his outfit, or from the number of days it is actually used. * * *

"Under this decision the compensation so fixed will be earned by the performance of such service as may be required of the employee, and an estimated expense in lieu of actual expense is not permissible where the employee is to be reimbursed for actual expenses." (Decision dated January 24, 1916, copy of which is inclosed.)

Practical experience in the application of this rule has led to the conclusion that it is impractical to fix specific rates for these services under the various conditions which prevail in the field service of the department all over the country. It is believed that fixing compensation in advance, in the manner suggested, will result in greatly increased expenditures, as, in such a case, an estimate must be made in advance and payment made whether such estimated travel is actually performed or not.

It is, therefore, desirable that authority be given to the Secretary of Agriculture, whenever, in his opinion, it may be necessary for the efficient and economical administration of the department, to authorize employees of the department to use their own horse and horse-drawn and motor-propelled vehicles in the performance of their official duties and to compensate them for such actual use by reimbursement at such rates as he shall prescribe.

The hire of horse-drawn and motor-propelled passenger-carrying vehicles, in addition to those owned by the department, has never been permitted except where their use was required to perform travel necessary in carrying out the field work of the department.

3. It is believed that the restriction as to the amount available for the purchase of motor-propelled and horse-drawn passenger-carrying vehicles is unnecessary, and should be omitted from the item of appropriation for this department for the fiscal year ending June 30, 1917.

4. The increase in the number of automobiles in the service of the department calls for legislation which will permit worn-out machines to be exchanged for new ones. The discounts allowed by salesmen and manufacturers, in exchange for old machines, are larger than the amounts that could be obtained by the sale of the old vehicles. Such a provision would reduce the cost of the new machines, increase the efficiency of the service, and result in saving in operation and maintenance expenses.

The present arrangement encourages excessive expenditures for maintenance and repair, as the efficiency of the vehicle decreases with use and age. Many of the vehicles now in use should be condemned, but, on account of the uncertainty of being able to procure new ones to replace them, are kept in use.

5. The Comptroller of the Treasury has held (22 Comp. Dec., 262) that a motor boat is not a vehicle within the meaning of the act of July 16, 1914. It therefore seems unnecessary to retain the words "and motor boats" in the appropriation for the fiscal year ending June 30, 1917.

There is transmitted herewith for the consideration of your committee a draft of a provision to take the place of the item in the estimate, page 214, of \$70,000 for motor-propelled and horse-drawn vehicles, which, it is believed, covers the changes suggested above.

Very truly, yours,

D. F. HOUSTON, *Secretary.*

—
TREASURY DEPARTMENT,
OFFICE OF THE COMPTROLLER OF THE TREASURY,
Washington, January 24, 1916.

THE SECRETARY OF AGRICULTURE.

SIR: I have your request of December 22, 1915, for decision as to whether you may legally authorize the payment of allowances to employees of the Bureaus of Animal Industry, Plant Industry, and the Biological Survey, at fixed rates

per mile, for the use of their own motorcycles or automobiles in official travel, such rates to be limited to the actual cost of operation, and the expenses therefor to be paid from the appropriations of the respective bureaus.

You also state that it is proposed to require each account involving such expenses to be accompanied by a certificate of the claimant that mileage allowance claimed does not exceed the actual cost of operation of the vehicle, and that travel was strictly limited to official business.

In a decision to you, dated June 13, 1914 (69 MS. Comp. Dec., 1501), you were advised that, under the conditions existing in the Forest Service, the employees thereof could be authorized to be paid, as a part of their compensation, fixed rates per mile for the use of their own motorcycles and automobiles in official work, if the allowed rate per mile does not exceed the actual cost of operation and if the travel is limited strictly to official business.

This decision followed prior decisions of this office to the effect that when the compensation of an employee is fixed by administrative action and not by law it is within the discretion of the proper administrative officer to allow a fixed rate of pay for the official use by the employee of his own team or conveyance as a part of his compensation, but not as a commutation of traveling expenses (20 Comp. Dec., 696). That is, the gross compensation agreed on in advance to be paid to such employee is indivisible and is paid him in consideration of personal services performed by him with his outfit, and is not affected by the mileage made by his outfit or the number of days it is actually used.

It is understood that the compensation of the employees involved is not fixed by law, and, therefore, if, in your judgment, the interest of the Government would be served by the authorization of fixed rates of compensation for employees who furnish their own machines, it is within your power, by orders in advance, to fix such rates and to establish them in individual cases. The compensation so fixed will be earned by the performance of such service as may be required. An estimated expense in lieu of actual expense is not permissible where an employee is to be reimbursed for actual expenses.

Respectfully,

W. W. WARWICK, *Comptroller*.

DETAILED ESTIMATES FOR CLERICAL POSITIONS.

Page 120, line 9, insert the following heading in small caps at the beginning of the paragraph: "Detailed estimates for executive officers, clerks, and employees below the grade of clerk."

NOTE.—This change is proposed in order to make this paragraph conform to the general arrangement of the other items in this section of the bill.

SENATE AMENDMENTS.

LANDS SET ASIDE IN WESTERN NORTH CAROLINA FOR PROTECTION OF GAME ANIMALS, BIRDS, AND FISH.

I desire to call your attention to two amendments which have been introduced in the Senate. I refer to the amendment proposed by Senator Overman to authorize the President to establish a game preserve within the areas in western North Carolina purchased by the Government under the Weeks law, and the amendment proposed by Senator Gallinger to make an appropriation of \$3,000,000 to continue the purchase of lands under the Weeks law. It is hoped that these amendments will receive the favorable consideration of the Senate committee.

The Overman amendment reads as follows:

"That the President of the United States is hereby authorized to designate such areas on any lands which have been, or which may hereafter be, purchased by the United States in the western part of the State of North Carolina under the provisions of the act of March first, nineteen hundred and eleven (Thirty-sixth Statutes at Large, page nine hundred and sixty-one), entitled 'An act to enable any State to cooperate with any other State or States, or with the United States, for the protection of the watersheds of navigable streams, and to appoint a commission for the acquisition of lands for the purpose of conserving the navigability of navigable rivers,' and acts supplementary thereto and amendatory thereof, as should, in his opinion, be set aside for the protection of game animals, birds, or fish; and whoever shall hunt, catch, trap, willfully disturb, or kill any kind of game animal, game or nongame bird, or fish, or take the eggs of any such bird on any lands so set aside, or in or on the waters thereof, except under such rules and regulations as the Secretary

of Agriculture may from time to time prescribe, shall be fined not more than \$500 or imprisoned not more than six months, or both."

NOTE.—As indicated, this amendment authorizes the President to establish a game preserve within the areas in western North Carolina purchased by the Government under the Weeks law. It is exceedingly desirable that such authority exist. It is especially urgent to exercise the authority in connection with the lands purchased from the Vanderbilt estate. These lands are already well stocked with fish and game. The former owner handled the fish and game resources with great care for many years, and it is estimated that there are at least 2,500 deer upon this tract alone. There are also many species of fur-bearing animals, together with numerous flocks of wild turkey, pheasants, and quail. As pointed out by the Biological Survey, the western North Carolina region is the natural home of deer, turkey, quail, and other game and admirably adapted for a game refuge.

Before the acquisition of the Vanderbilt tract it was visited by a number of members of the National Forest Reservation Commission who were deeply impressed with the need of continuing the protection of the game upon the area. It was found that in case of acquisition of the tract by the National Government the policy prevailing in regard to fish and game on the Federal lands would prevent the Government from securing under the State laws even that degree of protection which is available to the individual owner. As soon as the commission approved the purchase of the tract the matter of game protection upon it was brought before the governor of North Carolina with the suggestion that the game should be protected either by the State or by the Federal Government. After giving the matter due consideration the governor recommended to the legislature that action be taken to authorize the Federal Government to assume full control over fish and game matters on these purchased areas. An act was accordingly passed by the State covering the matter.

It would be a great misfortune to lose this opportunity to continue the protection of the lands purchased in western North Carolina which are now well stocked with game and fish. Unless the Government undertakes this work the game and fish on these lands will soon be exhausted. In addition, the adequate protection of the fish and game will react in a most important way in the protection of the land from fire. If the fish and game have no protection hundreds of people will rush upon the land for the game and fish, and feeling that there is no protection for the game resources, they will be very careless about the matter of fire. The safety of these lands would be seriously menaced unless authority is given for the adequate protection of the fish and game.

It is suggested that the amendment be incorporated in the bill immediately following the item: "Cooperative fire protection of forested watersheds of navigable streams," page 75.

EXTENSION OF WEEKS FORESTRY LAW.

The Gallinger amendment reads as follows:

"That, in order to carry out the purposes mentioned in section three of the act of March first, nineteen hundred and eleven, entitled 'An act to enable any State to cooperate with any other State or States, or with the United States, for the protection of the watersheds of navigable streams, and to appoint a commission for the acquisition of lands for the purpose of conserving the navigability of navigable rivers' (Thirty-sixth Statutes at Large, page nine hundred and sixty-one), as amended, there is hereby appropriated, out of any money in the Treasury not otherwise appropriated, available until expended, the sum of \$1,000,000 for the fiscal year ending on the thirtieth day of June, nineteen hundred and seventeen, and \$2,000,000 for the fiscal year ending on the thirtieth day of June, nineteen hundred and eighteen; and section fourteen of said act of March first, nineteen hundred and eleven, is hereby amended so as to read as follows:

"SEC. 14. That a sum sufficient to pay the necessary expenses of the National Forest Reservation Commission and its members, not to exceed an annual expenditure of \$25,000, is hereby appropriated out of any money in the Treasury not otherwise appropriated. Said appropriation shall be paid out on the audit and order of the president of the said commission, which audit and order shall be conclusive and binding upon all departments as to the correctness of the accounts of said commission."

NOTE.—The Weeks law, enacted on March 1, 1911, carried an appropriation of \$11,000,000 for the examination, survey, and purchase of lands at the headwaters of navigable streams. One million dollars appropriated for the year

1910 failed to become available. Instead of hastening into purchases in order to use the appropriation for the year 1911, which would have been unbusiness-like and would have resulted in loss to the Government, the National Forest Reservation Commission adopted the conservative policy of making purchases only after full information had been secured in regard to each tract and reasonable prices had been obtained. By so doing it established the work upon a sound basis, but nearly all of the \$2,000,000 appropriated for the year 1911 reverted to the Treasury. The appropriations for the years 1912 to 1915, inclusive, by later amendment, were made available until expended. The amendment suggested, which has been introduced in the Senate by Senator Gallinger, is for the purpose of making available approximately the unused portion of the original appropriation.

Prior to June 30, 1915, the National Forest Reservation Commission approved for purchase 1,317,000 acres, at an average price of \$5.22 per acre. All the acquired lands are situated in the eastern mountains, a portion being in the White Mountains of New Hampshire, but the larger acreage being in the southern Appalachians. Of the available appropriation there remained unused on June 30, 1915, \$521,999.70. Certain additional purchases have been made during this fiscal year, so that the present balance has been reduced to about \$255,000. Sufficient lands are now under option to more than exhaust this balance.

The work has been prosecuted with the greatest care on the part of the several departments made responsible for it and by the National Forest Reservation Commission. Members of the National Forest Reservation Commission have themselves inspected a considerable acreage of the acquired land, and the opinion of the members has been unanimous that the Government should proceed with these purchases as rapidly as possible until bodies of forest land of suitable size to be influential in protecting the headwaters of the more important navigable streams have been acquired by the Federal Government. In the view of the commission it will ultimately be necessary to acquire about 5,000,000 acres in the southern Appalachians and about 1,000,000 acres in the White Mountains.

Not quite one-fourth of that area has been acquired with the money which has been expended, and the amendment under consideration seeks to advance the work by making available the full amount originally appropriated by Congress.

This kind of work being new to the Federal Government, it was necessary at the start to build up a sufficient corps of trained employees to carry it on. Timber cruisers, surveyors, and title attorneys were employed and put to work. Since the lands from earliest times had been considered as wild lands, there was little foundation upon which the Government could build, either for its survey work or for its title work. It had to go back to the original grants and bring the title forward from that point. While it has been possible to acquire by purchase a considerable acreage, the greater acreage had to be acquired by condemnation on account of title defects. The cooperation of the United States attorneys, and the Federal courts of the several districts concerned, too, therefore was secured. At all points there is harmonious cooperation and satisfactory progress is being made. It is extremely desirable that there should be no gap in the work. Without doubt the program of purchases upon which the Government has started will have to be completed. It can far more economically be carried out now, while the necessary organization is in existence, than by discontinuing the work and taking it up anew at some later time.

The National Forest Reservation Commission recommended in its last report to Congress that purchases be continued and that Congress take action at the present session to make appropriations for another five-year period at the rate of \$2,000,000 per year. In view, however, of existing conditions, the amendment proposed by Senator Gallinger is regarded as satisfactory.

It is suggested that the amendment be incorporated in the bill immediately following the Overman amendment.

In accordance with the request of the chairman of the committee, I have presented to him, in a letter dated May 12, 1916, the views of the department regarding the amendment.

The CHAIRMAN. Then the committee will stand adjourned until 10.30 o'clock Wednesday.

(Thereupon, at 1.05 o'clock p. m., the committee stood adjourned, until Wednesday, May 17, 1916, at 10.30 o'clock a. m.)

AGRICULTURE APPROPRIATION BILL, 1917.

WEDNESDAY, MAY 17, 1916.

UNITED STATES SENATE,
COMMITTEE ON AGRICULTURE AND FORESTRY,
Washington, D. C.

The committee met at 10.30 o'clock a. m., in the committee room in the Capitol, pursuant to adjournment, Senator Thomas P. Gore presiding.

Present: Senators Gore (chairman), Smith of South Carolina, Smith of Georgia, Sheppard, Shafroth, Ransdell, Thompson, Johnson of South Dakota, Gronna, Brady, and Wadsworth.

The committee resumed consideration of H. R. 12717, an act making appropriations for the Department of Agriculture for the fiscal year ending June 30, 1917, and for other purposes.

The CHAIRMAN. Mr. Calvin has agreed to postpone his remarks for a few minutes to allow Dr. Kellerman to address the committee on the subject of citrus canker.

Senator RANDELL. Senator Fletcher is not here. He desired to have Dr. Kellerman tell us more in detail about the outbreak down there.

STATEMENT OF DR. KARL F. KELLERMAN, PHYSIOLOGIST, AND ASSISTANT CHIEF OF BUREAU OF PLANT INDUSTRY, DEPARTMENT OF AGRICULTURE.

Senator SMITH of Georgia. What force have you now at work?

Dr. KELLERMAN. The force ranges from 2 in Georgia to 294 in Florida—Florida being by far the largest State. We have 86 in Texas, 14 in Mississippi, 19 in Louisiana, 59 in Alabama; I should say, nominally, 3 in Georgia, but one of those devotes practically no time to the work.

Senator SMITH of Georgia. How technical is the knowledge or training that is required of these men to enable them to do the work?

Dr. KELLERMAN. Aside from the comparatively small number of technical men that are necessary in directing the work, the men are selected for their reliability and good eyesight, and not because of previous technical training.

Senator SMITH of Georgia. We have heard that you hardly thought it practicable to enlarge your force. We would like to hear from you about that and to know why it is not desirable.

Senator RANDELL. Mr. Chairman, I did not quite understand it in that way. I understood that with the present force we would not need any more money than had been appropriated in the former bill and was being carried in the bill as it passed the House.

Senator SMITH of Georgia. Then I will modify my question. Is it not possible to enlarge your force and do this work with greater rapidity?

Dr. KELLERMAN. It is possible that we could enlarge the force in some regions. It is impossible, however, merely by doubling our force to double the speed of the work. Our attempt has been to so place the force in the different States that we could get the maximum of inspection for the expenditure. In some territory we are not attempting to inspect very rapidly, just because the territory would be comparatively safe, not at all likely to be found infected, and in those regions we plan to have one man cover a great deal more territory than we would dare to have him attempt to cover in a region where canker was growing. In the canker-infected regions we put on just as many men as we can get hold of. In some regions we will have men as closely placed as army pickets on a border.

Senator SMITH of Georgia. Will you explain to us just what they do—how you conduct the work?

Dr. KELLERMAN. The entire territory that is suspected of harboring canker is divided into areas that are placed in charge of well-trained specialists, who direct the movements of the immediate inspectors. These men go into all citrus plantings, wearing properly sterilized suits and taking all unusual precautions that would be taken in handling any dangerous disease, and these men taking these precautions examine each tree in the suspected citrus grove. Whenever a tree is found infected that tree is tagged, so that it can be avoided by other inspectors and that at the earliest opportunity it can be burned in place without running the risk of further spread of the disease. The expense of the work is almost entirely because of the expense of the inspection. The careful examination of the enormous number of trees, that seems to be the only possible way of eradicating the disease, of course requires a large force, a force that is very carefully selected.

As soon as an area has been carefully inspected and found free of canker the force in that particular region is somewhat reduced. We consider it unnecessary to keep a large force of inspectors in a territory which has been given a preliminary inspection and found clean. In territory that has been inspected and found infected the infected trees are promptly burned up, but the inspection of that territory must be continued with great care. Our experience shows that in any infected region it is impossible for our inspectors to find all of the canker on the first inspection. There will be cases that are just beginning that are beyond the limit of the human eye; consequently in all of these infected territories the inspections are redoubled in vigor as soon as infections are found, and the subsequent infections usually very rapidly becoming smaller in number and with fewer trees each time as they are gradually burned out, the territory becomes more and more safe. We do not find it possible to reduce our number of inspectors until that territory has been under careful observation for two or three months.

Senator SMITH of Georgia. How do you handle the tree when it is found infected?

Dr. KELLERMAN. An oil spray is directed against the tree infected with canker, and while the burning oil is being sprayed on the tree the operator moves around the tree sufficiently to direct the burning

oil onto every portion of it, which destroys the tree very rapidly. Practically nothing but blackened stumps remain after the tree has been treated in that way. Then the ground is burned under the tree and on bad infections we have found it necessary to actually spray the ground, practically saturate the ground with a solution of formalin to prevent the ants or insects that have burrowed down into the ground and possibly become infected from carrying the infection to neighboring trees, even after the burning.

Senator SMITH of Georgia. Is it very contagious?

Dr. KELLERMAN. It is the most contagious plant disease that we have had any experience with in this country.

The CHAIRMAN. It resembles the foot-and-mouth disease in that regard?

Dr. KELLERMAN. Yes; very much.

Senator BRADY. About how much territory is covered by this infection?

Dr. KELLERMAN. Six States are now infected. The entire range of Gulf States; and I am very sorry to say that very recently we have found a few infected trees in Georgia. Until very recently we had supposed Georgia was clean.

Senator RANDELL. Has it reached California?

Dr. KELLERMAN. No; luckily it has not gone west of the Texas line. I think the farthest west is San Antonio.

Senator SMITH of Georgia. Is there any danger of its spreading to California?

Dr. KELLERMAN. I believe there is danger, a very serious danger of it spreading to California.

Senator RANDELL. How extensive is the disease in the citrus groves of the world, outside of this country?

Dr. KELLERMAN. We know of it only in the Orient.

The CHAIRMAN. It came from Japan.

Dr. KELLERMAN. It came from Japan and exists in China and in the Philippines, but we do not know of its presence anywhere in the citrus regions of the Mediterranean.

The CHAIRMAN. Is it an old disease in Japan?

Dr. KELLERMAN. It is a new disease in Japan, but it is an old disease in China.

Senator BRADY. Are they making efforts to combat it in those foreign countries?

Dr. KELLERMAN. I think no efforts are being made to combat it in China. In Japan, in some regions, distinct efforts are being made to combat the disease, but it is only very recently that the Japanese recognized that it was a new disease. They had confused it, as our pathologists had confused it in this country, with a comparatively harmless disease which it does resemble. In Japan, however, I should state that the climate is somewhat different from our climate here, and also the varieties of orange which are commercially most important are not nearly as susceptible to the citrus-canker disease as the orange and grapefruit of the South.

Senator RANDELL. Doctor, how long has the disease been known in this country?

Dr. KELLERMAN. It was introduced in 1911. It was noted by some growers at that time as being a rather unusual trouble, but it was not recognized as a disease until two years ago.

Senator RANSDELL. Is there not another disease that is very bad on the citrus fruits, that kills them frequently, similar to this?

Dr. KELLERMAN. Oh, yes. There are quite a number of citrus troubles, but no trouble that we have in this country seems to be such a menace as this. In every other case there seems to be some adequate method of handling the difficulty.

Senator RANSDELL. How many men of your force are there in infected area in Louisiana? You spoke of having a considerable number in Florida, some in Texas and Mississippi, and quite a number in Alabama, and three in Georgia.

Dr. KELLERMAN. I am sorry to be unable to give you the distribution in Louisiana.

The CHAIRMAN. What do you pay these inspectors?

Dr. KELLERMAN. The salaries will range, depending on the ability of the inspector, from \$175 a month to \$60 a month, depending entirely on the ability of the man.

Senator BRADY. Would you consider a man necessarily would have to have an expert's ability in order to receive \$175?

Dr. KELLERMAN. Oh, yes. He would not only have to be an expert in handling the disease, but he would have to have some executive ability and be able to handle a group of men.

The CHAIRMAN. What I wanted to get at was, what you pay the members of the groups?

Dr. KELLERMAN. The members of the group receive from \$60 to \$80.

Senator JOHNSON of South Dakota. Mr. Chairman, will you not allow me to ask for information?

The CHAIRMAN. Certainly.

Senator JOHNSON of South Dakota. What is the real cause of this disease that you speak of?

Dr. KELLERMAN. It is a bacterium—a microscopic germ that was only recently discovered and identified and given a name. It is called *Pseudomonas citri*, the scientific name of the bacillus.

Senator JOHNSON of South Dakota. And do you find this application or this treatment reasonably successful?

Dr. KELLERMAN. This treatment seems to be entirely successful, but it is, of course, a very drastic treatment. In some cases of infected orange groves the entire grove has been burned out.

The CHAIRMAN. You do not undertake to pay for the trees?

Dr. KELLERMAN. No.

Senator RANSDELL. Have you any information of the number of trees destroyed in the various States?

Senator BRADY. That is a very important matter.

Senator RANSDELL. Yes; I would like to find that out.

Senator BRADY. I would like to know, if you can give us that information.

Dr. KELLERMAN. I can not give that information in detail for the different States. The number in Florida, where the destruction has been going on for the longest time, and where, perhaps, there are more nurseries involved than in any other State, there are about two and one-half million nursery trees which have been destroyed and something over half a million grove trees.

Senator RANSDELL. By "grove trees" do you mean trees that are bearing?

Dr. KELLERMAN. Not necessarily; that would be trees from 3 years old up. We count any tree a grove tree that is actually planted and growing in a grove.

The CHAIRMAN. How many of that class have been destroyed?

Dr. KELLERMAN. Something over half a million; approximately a half million.

Senator SMITH of Georgia. No compensation is given to the tree owner?

Dr. KELLERMAN. None whatever.

Senator SMITH of Georgia. You simply pay the expense of the eradication?

Senator RANDELL. Give us an idea, Doctor, of the amount of local contribution or cooperation that you have been having in this eradication work.

Dr. KELLERMAN. The largest cooperation is, again, in Florida. The original cooperation was with growers and citrus associations, amounting to something like \$35,000. The State Legislature appropriated \$125,000 specifically for citrus canker for the two years, and \$70,000 for the two years on related quarantine work.

The CHAIRMAN. That means \$125,000 a year for two years?

Dr. KELLERMAN. No; that was \$125,000 for the two years, and \$35,000 a year, or \$70,000 in all, for the related work of the plant quarantines.

Senator RANDELL. Does that mean \$195,000?

Dr. KELLERMAN. Yes, sir.

Senator RANDELL. That is what has been done in Florida. Have the other States done anything?

Dr. KELLERMAN. There has been much individual cooperation both in contributing funds and in service.

Senator BRADY. Doctor, I understood you to say that there had been 2,500,000 nursery trees destroyed on account of this infection?

Dr. KELLERMAN. That is, approximately, as I remember it.

Senator BRADY. And 500,000 older trees planted in orchards?

Dr. KELLERMAN. Yes, sir.

Senator BRADY. Could you give us a rough estimate of the value of those trees destroyed in Florida and an approximate estimate of what amount of damage in that way has been done to the people of those States?

Dr. KELLERMAN. We could probably count the nursery trees at 50 cents a tree fairly. The grove trees are really very hard to estimate, because of the variety of age in those trees. It would range anywhere from \$1 up to \$10. I suppose that \$3 would be somewhere near an average.

Senator SMITH of Georgia. \$2,750,000 loss in trees.

Senator BRADY. In Florida alone, as I understand it.

Dr. KELLERMAN. That is in Florida. It is probably a little higher than that, although I am not sure of those figures.

Senator BRADY. You say that this disease was discovered in 1911?

Dr. KELLERMAN. In Texas?

Senator BRADY. In this country.

Dr. KELLERMAN. Yes.

Senator SMITH of Georgia. How did it get here?

Dr. KELLERMAN. It came in a shipment of nursery stock to a little Japanese nursery in Texas. That was apparently the original introduction into this country.

Senator SMITH of Georgia. And the Government experts who examined them failed to detect the bacteria?

Dr. KELLERMAN. At that time there was no inspection of any sort by any Government men; that was before the passage of the Government quarantine act, and there was no inspection at any port excepting the State inspection at San Francisco.

The CHAIRMAN. These trees came in through San Francisco?

Dr. KELLERMAN. These trees came through Seattle, I believe.

The CHAIRMAN. In Florida is this localized pretty well in the southeastern part about Miami and below Miami?

Dr. KELLERMAN. That is the region where the outbreaks have been the worst, but the vicinity of Elfers, on the west coast, not far distant from the Tampa region, which is very important as a grapefruit-producing region, was infected once last year and has been reinfected recently.

The CHAIRMAN. Tell us about the extent of the recent reinfection. We have heard something about that and have not been able to verify it.

Senator RANDELL. It might be well to read a telegram received by Senator Fletcher from Gainesville, Fla.

Senator BRADY. I think it will be beneficial to have that read.

Senator RANDELL. I will read it for you, Senator Fletcher.

Senator FLETCHER. Wait a minute; let him identify it.

(The telegram was thereupon shown to Dr. Kellerman.)

Dr. KELLERMAN. That is from Mr. Newell, the plant commissioner.

Senator RANDELL. I will read it. It is addressed to Senator Fletcher [reading]:

GAINESVILLE, FLA., May 14, 1916.

Senator DUNCAN U. FLETCHER,

United States Senate, Washington, D. C.:

Recent discovery additional canker infections make it evident that sum of two hundred fifty thousand in regular Agriculture bill will not be sufficient to carry on eradication work until next legislature meets to make additional appropriations. One hundred per cent more infected trees found during past 30 days than during month previous. Under emergency appropriation made in February 280 inspectors of Bureau Plant Industry are desperately working in Florida to bring disease under control, and from 100 to 200 additional inspectors will be required to stop spread of the disease and complete, even if no more new centers of infection are discovered. With sufficient funds available, eradication is a certainty; but owing to rapidity with which canker develops if work has to stop for even 30 days results obtained with money already expended will be lost and State and Government could not again get situation under control without enormously increased expenditures, if, indeed, it could be done at all.

WILMON NEWELL,
Plant Commissioner.

Senator BRADY. I received a telegram along those same lines from Senator Fletcher's colleague, Senator Bryan, and it made a very strong impression on me, and that is the reason, Doctor, I am asking you these questions. If this disease can be eradicated, as that telegram suggests it can be, by putting in this force of men that has been requested here, it seems to me that it is good business to do it; but I am not acquainted with the conditions down there, and you gentlemen from the South are, and for that reason I think that you should

give us all the information possible relative to the important immediate needs.

The CHAIRMAN. Dr. Kellerman, you proceed on the theory that there is no economy and no advantage in delay, and the sooner it can be stamped out the better?

Dr. KELLERMAN. Oh, yes; by all means. In fact, it is a great economy to stamp out the disease promptly. Mr. Newell is entirely right in his statement that any delay is likely to cause enormously increased expenditures.

The CHAIRMAN. I think this committee is not to be limited for want of funds, and if the funds can be economically used I think the committee is disposed to provide the money. That is involved in the proposition here as to whether or not you could utilize \$250,000 more effectively in the early extermination of the disease.

Senator RANDELL. Before answering the question, may I ask you how long it would take to train an operator or inspector of ordinary intelligence, one of these \$60 to \$80 men, so he could do the work pretty well?

Dr. KELLERMAN. Working under supervision, we can take a good quality of man and have him efficient enough to work in a gang in about three weeks—say, two or three weeks. We can not trust those men alone under two or three months, and we can not allow them to work except in the gangs under direction with the more experienced men.

Senator FLETCHER. Senator, would you allow me to ask the doctor a question there?

Senator SMITH of Georgia. I move, Mr. Chairman, that Senator Fletcher be requested to ask the doctor such questions as he may desire.

The CHAIRMAN. We would be glad to have him ask any questions he wishes.

Senator FLETCHER. I have only a few questions in this direction. I would like to ask whether or not the doctor would agree with Mr. Newell that some additional inspectors could be used.

Dr. KELLERMAN. Under the present situation there is no doubt that additional men are needed. I have just received a telegram this morning from Commissioner Newell giving details of the recent infections. Four new areas are found infected in Pasco County, in the Elfers region, which is on the west coast, and particularly dangerous because of its proximity to the large grapefruit plantings there. The new areas reported in De Soto, Walton, and Volusia Counties are all serious, but to my mind less serious, since we have now in those counties almost all the trained men that we need. It will be immediately necessary to increase our force in the Elfers region by from 25 to 50 men, depending on how bad these infections turn out to be.

The CHAIRMAN. You say that ought to be increased how much?

Dr. KELLERMAN. From 25 to 50 additional men will have to be put in the field.

Senator RANDELL. That is a new area just reported to you this morning?

Dr. KELLERMAN. Yes, sir. That number will be required during the period of the greatest severity of the infection. We have had that area under inspection, with only a small number of inspectors during the past several months.

Senator FLETCHER. Walton County is in what might be called the northwestern portion of the State, and De Funiak Springs is the county seat?

Dr. KELLERMAN. Yes, sir.

Senator FLETCHER. And that county, for instance, is some 600 miles from Miami, the county seat of Dade County?

Dr. KELLERMAN. Yes, sir.

Senator FLETCHER. So that the area is pretty widely distributed and covers a great amount of territory in the State; is not that true?

Dr. KELLERMAN. Yes, sir. There is one thing I would like to say there, in commenting on the wide distribution of canker in Florida: The very fortunate circumstance is that although distributed around the periphery of the very extensive grapefruit and orange plantings, no infections have occurred in the biggest commercial districts of Florida. These are all more on the outskirts of the commercial orange and grapefruit districts at the present time.

The CHAIRMAN. Have you any reason to think you can exterminate it at all?

Dr. KELLERMAN. No, sir. I feel convinced that we can control the disease. We feel confident of controlling the disease if we can maintain the campaign. Last year we did feel very dubious. We thought we were facing a situation that was really a desperate one, but we felt that we must proceed along the line we chose, since it seemed to be the only possible line that gave us any hope whatever. This year we feel encouraged. We feel that we can succeed if we continue vigorously along the known line.

Senator GRONNA. Supposing you appoint these extra men to take care of these new outbreaks. How much additional money would it require in addition to the \$300,000 already appropriated and the \$250,000 carried in this bill?

Dr. KELLERMAN. If you mean merely the number of men to take care of the present situation in Florida, the increase would be very small. Just a very few thousand dollars would cover an extra expense in the Elfers region in Florida.

Senator GRONNA. Are there any outbreaks anywhere else that you know of, Doctor, in other States?

Dr. KELLERMAN. There are no outbreaks of unusual seriousness in any of the States that I know of at the present time, and my outline of the present plan of campaign and the necessary expenditures of the campaign is based on conditions remaining approximately as they are at the present or improved.

Senator GRONNA. May I ask another question, just in connection with this? Have you concluded that the only practical way of eradicating this disease is to burn the trees?

Dr. KELLERMAN. Yes, sir.

Senator GRONNA. I am asking this just now for information. In my State, which is a grain-growing State, we lost from a quarter to a half of our crop for a few years on account of a disease which we called "smut." Of course that is somewhat different, but we have done away with that entirely by treating the seed with formaldehyde. The treatment of the seed grain with formaldehyde absolutely eradicates the germ of smut.

My question is this: Would it be possible to treat these trees with this formaldehyde and still retain the value of the tree?

Dr. KELLERMAN. Of course, we will remain hopeful of being able to control the disease through a method of spraying or any other comparatively simple method, but we have practically given up hope of any such solution. All the experiments of the early years—the reason, in fact, the disease got such a start was because so many attempts were made to control it by spraying, and no satisfactory check of the disease was made until this drastic burning out was resorted to.

Senator FLETCHER. Any kind of chemicals strong enough to destroy the disease would kill the tree; is that about the opinion?

Dr. KELLERMAN. That appears to be the case. In fact, it seems to be almost impossible to get chemicals strong enough to kill the disease without killing the trees.

Senator FLETCHER. Then, Doctor, let me ask you another question: Do you regard this disease somewhat analogous to a conflagration, the important thing to be done being at the beginning rather than to try to handle it after it spreads? In other words, the principal work must be done immediately in the way of inspection and eradication if you are to control it?

Senator BRADY. Let me say that before you came in the doctor made that very statement.

Senator SMITH of Georgia. He made that statement very strongly.

Senator FLETCHER. May I at this point ask leave to put into the record the telegrams I got yesterday and read to the committee?

The CHAIRMAN. That may be done.

(The telegrams here submitted by Senator Fletcher follow:)

DUNEDIN, FLA., May 14, 1916.

Senator DUNCAN U. FLETCHER,
Washington, D. C.:

The orange growers of Florida want to impress upon you the fact that the fight against citrus canker is a fight for their existence and that they badly need the \$250,000 amendment in the Senate to successfully and continuously carry the fight on until the canker is absolutely stamped out. The passage of this amendment is of the greatest importance. No other question now before Congress is of so grave importance to your constituents or concerns their welfare so seriously as this, and all growers and allied interests are looking to you and depending on you to get this amendment passed.

L. B. SKINNER,
President Florida Growers' and Shippers' League.

TAMPA, FLA., May 14, 1916.

DUNCAN U. FLETCHER,
United States Senate, Washington, D. C.:

Trust that you fully appreciate amount as passed by House is wholly inadequate to citrus-canker needs and that you will urge additional \$250,000 appropriation by the Senate. This season's crop has brought in round numbers \$18,000,000 into Florida, and an industry of this magnitude must not be jeopardized by insufficient means to cope with the gravity of the situation.

J. H. ROSS.
L. D. JONES.

The CHAIRMAN. Your estimate of \$250,000 contained in this bill was based on the known disease at that time and the force necessary to deal with it?

Dr. KELLERMAN. Yes, sir.

The CHAIRMAN. And would a change in the extent of the territory make a change in your opinion of the amount necessary?

Dr. KELLERMAN. Any great change would necessitate a change in the estimate.

I think I ought to explain a little bit in estimating the \$250,000. We are counting on having on June 30 a balance of about \$100,000 out of the \$300,000 deficiency appropriation, which with the \$250,000 carried in the bill would give us approximately \$350,000 as working capital for the coming fiscal year. Our effort has been to keep our estimate at the lowest figure with which we felt it was at all safe to attempt to handle the work. We have counted on this \$350,000 on the further supposition that we will be able to receive additional aid from the State, so that in all we will have a working capital through the whole season approximately between \$400,000 and \$500,000. We are hoping that that will carry the work. If no untoward circumstances arise, we believe we can just about get through. In case of accidents, unusual developments of disease, and the necessity for much heavier expenditures, there apparently still remains to us the possibility of appealing to the Congress at the next session, on somewhat the same basis that we did at the present session, for an emergency item.

The CHAIRMAN. You feel that in almost any case of emergency, you would have sufficient funds to carry on the campaign until December?

Dr. KELLERMAN. We feel that almost under any circumstances we could get that far with the present sum.

Senator RANSDELL. With the present amount of infection, provided the areas do not spread; but I understood you to say your conclusions were based upon the knowledge that you have now of the present infections. Suppose, however, a number of new infections broke out. What have you as an insurance fund to guard against further spread? You have a number of States where this disease exists—you have Texas, Louisiana, Mississippi, Alabama, Florida, and to an extent in Georgia. You stated that all of this money was going to be needed for the work that you knew of right now, did you not?

Dr. KELLERMAN. Our insurance fund is mainly the past history. We do not believe that sudden outbreaks will cover wide territories. If that should happen, we would be pinched for funds. That is merely what we regard as an improbable circumstance. We do not feel that circumstances are at all likely to arise where we would need to expand.

Senator RANSDELL. May I ask, Doctor, what your experience has been? You said the disease has been here two years. How much experience have you had in regard to it?

Dr. KELLERMAN. We have had a little over a year's experience in actively fighting it; that is really all we have had.

Senator JOHNSTON of South Dakota. Doctor, did I understand you, in answer to a question a while ago, to say that you thought this was subject to climatic conditions; that is, in the different localities?

Dr. KELLERMAN. The warm, wet weather stimulates the spread of it very much.

Senator FLETCHER. Could you tell us what time of the year is the most infectious, as you have observed it?

Dr. KELLERMAN. From June until about October; during that season it spreads very rapidly.

Senator RANSDELL. Doctor, I am naturally very much interested in my own State. You have only a few inspectors there. I assume there is not a great deal of the disease in Louisiana at this time?

Dr. KELLERMAN. There appears not to be a great deal. The Delta region has been rather hard hit in certain localities and there are some other regions that have suffered more or less severely.

Senator RANSDELL. The Legislature of Louisiana is now in session. I understand the Florida Legislature will not meet until next year. Do you know whether there is any attempt being made to secure funds through the Louisiana Legislature for cooperation with your department?

Dr. KELLERMAN. I do not know directly. I have been told indirectly that attempts were being made—very strong representations were being made—to the legislature for cooperating funds.

The CHAIRMAN. If there are no further questions—

Senator SMITH of Georgia. I desire to ask you the specific question, Doctor: If we only create \$250,000 in this bill, you think that is all you need, or do you think it better to give you more? Can you use more than that successfully if we give it to you and stop using it if you do not need it?

Dr. KELLERMAN. Under such circumstances, I think this will probably explain our position as clearly as any way I can state it: I do not think that we are likely to use more than the sums I have outlined, regardless of what sums might be appropriated. That is what I think we will use. It is true, as Senator Ransdell has said, that circumstances might arise that would make it desirable for us to have somewhat larger funds than we had counted on; but with the year's experience that we have had we believe that that is the sum that should be spent for effectively handling the disease. Unless unusual circumstances arise, I think that is what we will want to spend.

Senator RANSDELL. In making up that sum, may I ask one more question? Did you not count on very considerable local cooperation?

Dr. KELLERMAN. Yes, sir.

Senator RANSDELL. You thought the communities were going to put up very considerable sums?

Dr. KELLERMAN. Yes. I have counted that in in my figures. I have assumed we would be able to secure considerably more than \$100,000 from the communities.

The CHAIRMAN. We are very much obliged to you, Doctor.

Senator RANSDELL. Dr. Melvin is here.

The CHAIRMAN. And also Dr. Mohler.

You see, gentlemen, we have a conflict of obligations here in a way. This day was fixed as the regular day for the cotton future hearing. I did not anticipate it would take so long with Dr. Kellerman. It has been very illuminating, and we have covered the whole field. As I understand it, the two points involved in the foot-and-mouth matter are as to the amount of outstanding obligations to be paid out of this fund and as to the prospects of other obligations accruing.

Senator BRADY. It seems to me, Mr. Chairman, it would not take long for Dr. Melvin to make his statement.

The CHAIRMAN. It would not take long if we limited ourselves to the points. It is interesting to have a history of the disease and analyses of the disease—very interesting and very profitable, too—

but the question is whether we could do it now or had better postpone it.

Senator RANDELL. The reason I suggested Dr. Melvin is, as I understood, you would not go ahead with the cotton futures until Senator Ellison Smith was present.

The CHAIRMAN. Senator Smith, what do you suggest?

Senator SMITH of Georgia. I think we can hear Dr. Melvin a few minutes and do all we can to await the arrival of Senator Smith of South Carolina.

Senator BRADY. I do not think we need go into a long discussion.

The CHAIRMAN. There are a hundred questions that might be asked that will elicit very interesting information. There is no way of stopping Senators and I have no disposition to stop Senators. I may say that this is all available in the House hearings.

Dr. Melvin, we will be glad to hear from you on the two points—the amount necessary to meet the outstanding obligations and as to any estimate you can make as to the probable future obligations or drafts on this fund—those two points first, at any rate.

STATEMENT OF DR. A. D. MELVIN, CHIEF, BUREAU OF ANIMAL INDUSTRY, DEPARTMENT OF AGRICULTURE.

Dr. MELVIN. The obligations up to the present time practically have been taken care of out of our present funds. There are several claims pending before the department as to whether they should be paid under this appropriation or not; and there is remaining available between \$600,000 and \$700,000 of the last appropriation of \$2,500,000. Then we will have no funds specifically provided for foot-and-mouth disease except as is provided in this bill.

We feel from the experience that we had in this last outbreak which was so very extensive, so very disastrous, that it shows how tremendously the disease may spread when it once gets into one of these large stockyards, that we should have a large fund available immediately to handle the matter.

We hope that we will not have to use any, of course, but if we do need it we will need it very badly and need it immediately. The department feels and the live-stock industry of the country feels that there should be this amount placed at the disposal of the department.

Our last case of foot-and-mouth disease occurred in Christian County, Ill., the first part of this month, and among a small herd—a restocked farm where the disease had been in January. The premises were disinfected at that time, but it was very wet weather and there was a great deal of mud in the barnyards. This man was permitted to put on a few animals in March and restock his premises, and evidently the hogs uprooted some corner where the infection existed and where the disinfectant had not reached. These few animals were promptly slaughtered and buried.

The CHAIRMAN. How many known cases are in existence now?

Dr. MELVIN. None.

The CHAIRMAN. Doctor, have you estimated that the \$600,000 still available will meet any outstanding obligations up to the 1st of July?

Dr. MELVIN. Yes.

The CHAIRMAN. And you know of no obligations or claims that will be inherited from this fiscal year and go over to the next fiscal year that will have to be made out of this \$2,500,000?

Dr. MELVIN. I think there will be none.

The CHAIRMAN. And then this is entirely an insurance fund to meet future contingencies or it might not be needed?

Dr. MELVIN. The other appropriation expires the last of this year. They would have to go to the Court of Claims for any relief.

The CHAIRMAN. Then your contemplation is that all this \$2,500,000 might be needed in case there is an outbreak, or none in case of no outbreak?

Dr. MELVIN. Yes, sir.

The CHAIRMAN. Which latter we all hope will be true.

Senator SMITH of Georgia. Doctor, how much have you used in the past year?

Dr. MELVIN. Perhaps I could give that better as a total. I have it here divided up into fiscal years.

Senator SMITH of Georgia. Just give the total for a series of years.

Senator RANDELL. You mean since the outbreak?

Dr. MELVIN. Yes, sir. The disease was diagnosed in October, 1914, and since that time we have expended \$4,540,107.50. That, however, does not include the small amount at this last outbreak.

This is a detailed statement of the disease in the various States and the number of animals and different kinds of animals that were slaughtered, and I will leave this for your record, if you desire it.

(The table submitted by Dr. Melvin follows:)

Eradication of foot-and-mouth disease from October, 1914, to March, 1916.

States.	Coun- ties.	Duration of out- break.	Herds.	Cattle.	Swine.	Sheep.	Goats.	Total ani- mals.	Animals.	Prop- erty.	Burial.	Disinfect- tion.	Miscel- laneous.	Livery.	Labor.	Auto- mobile hire.	Total.
Connecticut.	3	Nov. 19, 1914, to Apr. 11, 1915.	33	733	143	.....	.....	876	\$24,183.05	\$659.64	\$1,287.16	\$1,128.10	\$505.69	\$45.25	\$78.00	.....	\$27,886.89
Delaware....	1	Nov. 6, 1914, to Dec. 31, 1914.	12	152	49	22	.....	223	4,033.88	248.00	682.52	234.60	144.84	34.75	.....	\$1,001.50	6,360.09
District of Columbia.	.....	Nov. 16, 1914, to Mar. 2, 1915.	3	48	5	.....	.....	53	3,569.66	187.00	10.80	.....	2.50	.....	.....	.....	3,769.96
Illinois.....	54	Nov. 1, 1914, to Feb. 25, 1916.	1,218	31,082	46,093	2,017	156	79,257	1,250,224.00	24,791.49	67,574.32	108,867.66	16,744.56	2,980.25	427.40	440.00	1,472,049.68
Indiana.....	20	Oct. 15, 1914, to Aug. 25, 1915.	121	2,363	3,912	615	.....	6,890	89,111.62	859.62	796.21	418.22	191.07	25.00	.....	.....	91,404.74
Iowa.....	9	Nov. 5, 1914, to Mar. 22, 1915.	48	1,547	2,334	32	.....	3,913	62,648.45	664.74	2,737.06	1,650.44	440.98	.....	2.00	.....	68,143.67
Kansas.....	4	Feb. 5, to May 6, 1915.	6	1,217	313	.....	.....	1,530	39,460.99	51.93	1,273.66	706.03	219.80	360.80	263.50	239.96	42,576.67
Kentucky...	11	Nov. 9, 1914, to June 18, 1915.	84	2,951	918	216	1	4,086	67,195.28	583.28	1,485.79	1,564.52	1,247.64	181.25	2,421.00	256.00	74,934.16
Maryland....	10	Nov. 3, 1914, to May 15, 1915.	56	964	1,621	197	.....	2,782	33,262.04	3,343.30	1,912.71	3,962.10	1,290.45	185.00	12.38	2.50	43,970.48
Massachu- setts.	9	Nov. 5, 1914, to Oct. 20, 1915.	99	2,119	5,705	77	11	7,912	93,011.57	4,527.97	5,243.07	4,992.18	2,746.21	152.73	5,115.41	.....	115,789.14
Michigan....	16	Oct. 15, 1914, to Aug. 12, 1915.	273	2,947	4,042	852	.....	7,841	105,396.66	768.43	176.25	4,354.17	1,965.70	12.00	1,394.00	.....	114,067.24
Minnesota...	1	Aug. 11 to 17, 1915.	1	25	35	.....	.....	60	1,191.90	34.63	37.50	38.34	4.25	.....	.....	.....	1,306.62
Montana....	3	Nov. 7, 1914, to Jan. 3, 1915.	32	1,408	11	237	.....	1,656	33,801.35	77.50	600.11	84.58	286.74	.....	53.00	.....	34,883.28
New Hamp- shire.	1	Nov. 28, 1914, to Jan. 28, 1915.	3	78	26	.....	.....	104	2,479.75	139.75	93.23	148.51	2.95	5.50	136.44	.....	3,006.13
New Jersey..	8	Nov. 9, 1914, to June 9, 1915.	50	1,314	815	9	8	2,146	62,247.04	817.65	724.35	1,008.57	501.39	17.00	1,765.00	76.00	67,157.00
New York...	21	Nov. 4, 1914, to Aug. 17, 1915.	187	5,454	623	150	38	6,265	231,370.04	3,890.95	5,964.69	5,298.18	2,346.39	475.62	1,627.00	90.00	261,092.87
Ohio.....	39	Nov. 3, 1914, to Apr. 2, 1915.	222	4,019	4,994	3,136	1	12,150	178,225.95	1,420.06	6,507.07	2,594.99	2,079.71	561.38	1,732.30	171.95	193,293.41
Pennsylvania	34	Nov. 1, 1914, to Apr. 29, 1915.	904	14,989	12,055	369	17	27,430	469,598.91	42,932.47	21,230.58	11,613.24	6,095.17	1,374.00	13,675.13	197.50	566,717.00
Rhode Island	3	Nov. 7, 1914, to Mar. 24, 1915.	59	988	375	33	.....	1,396	36,000.25	1,177.13	1,896.40	647.96	1,006.49	117.30	1,049.13	5.00	41,899.66
Virginia.....	3	Nov. 12, 1914, to Mar. 20, 1915.	8	378	470	.....	.....	848	13,028.30	250.22	448.27	366.58	151.05	.....	4.00	.....	14,246.42
Washington.	1	Nov. 16 to 21, 1914.	1	102	.....	.....	.....	102	2,025.00	.....	.....	.....	.....	.....	.....	.....	2,025.00
West Vir- ginia.	3	Feb. 26 to Apr. 12, 1915.	22	193	196	114	.....	496	6,407.08	654.22	284.86	786.90	120.69	.....	139.70	.....	8,392.38

Wisconsin.....	12 Nov. 4, 1914, to Mar. 21, 1915.	40	1,504	1,764	1,435	4,704	59,677.55	1,981.28	2,344.23	4,253.16	963.38	234.50	69,454.10		
Total for 22 States and District of Columbia..															
266 Oct. 15, 1914, to Feb. 25, 1916.		3,482	76,575	86,492	9,511	133	172,720.2	868,148.55	90,061.26	123,323.87	154,718.03	39,036.95	6,527.83	2,480.41	3,314,426.59
Salaries, bureau employees, \$623,439.69; travel expenses, bureau employees, \$517,994.56; miscellaneous supplies, District of Columbia, \$9,270.04; unpaid claims, \$15,000.													1,165,713.29		
Reimbursement of expenses to owners of dairy show herd.....													4,480,130.88		
Total.....													59,967.62		
													4,540,107.50		

1 Nine deer.

The expenses for purchase of animals and property destroyed, burial of animals, and disinfection of premises was paid by the Federal Government and the several States on the basis of 50 per cent division.

Senator SMITH of Georgia. Could you give us the largest amount you have been called upon to spend in any one six months, approximately?

Dr. MELVIN. The first six months of the disease, probably—from October up to the 1st of April of the following year—would have been the largest.

Senator SMITH of Georgia. The first six months was the largest?

Dr. MELVIN. Yes, sir. The first outbreak was practically eradicated in six months.

Senator SMITH of Georgia. And has been gradually reducing as you got the disease under control?

Dr. MELVIN. Oh, yes, sir. Last summer our expenses were quite tremendous in one county in Illinois. The disease centered there and persisted for a long time, but, as I say, the first six months of the disease was when the greatest expenditure occurred.

Senator JOHNSON of South Dakota. Doctor, what time of the year is this disease most prevalent?

Dr. MELVIN. We thought that perhaps it was in the winter, as our previous outbreaks in 1902 and 1903 and in 1908-9 occurred in the winter, but, as I just stated, last summer it persisted very extensively in certain sections of Illinois. So that I am in doubt as to whether it is a seasonal disease—whether it may not exist in one season as well as another, providing it gets a start.

Senator BRADY. Doctor, you say that you have available now about \$600,000?

Dr. MELVIN. Yes, sir.

Senator BRADY. Unused?

Dr. MELVIN. Yes, sir.

Senator BRADY. And that this \$2,500,000, if appropriated, would give you \$3,100,000?

Senator RANDELL. I understood that would lapse at the end of this fiscal year.

Senator SMITH of Georgia. It lapses the 1st of July?

Dr. MELVIN. Yes, sir.

Senator BRADY. And what you do not expend between now and the 1st of July will revert to the Treasury?

Dr. MELVIN. Yes, sir.

Senator GRONNA. The balance not expended before June 30 will go back into the Treasury?

Dr. MELVIN. Exactly.

Senator GRONNA. So that we have to appropriate some money.

Senator BRADY. What is your judgment about this \$2,500,000 appropriation.

Dr. MELVIN. It seems a very large amount, and I hope we will never spend a cent of it; but I think the danger of great loss in not having a sufficient amount on hand is so serious that we ought to have it.

Senator SMITH of Georgia. If we were to give you \$1,000,000, and since we meet on the 1st of December, and if you should need more we would give you more very quickly, even if you found you had to use it up, would that be satisfactory?

Dr. MELVIN. Senator, it seems to me, an amount of this sort should be carried in the department bill year after year as an insurance. If it is limited to \$1,000,000 now and next year we estimate for \$2,500,000, I think Congress would look upon it as an increase of a million and a half.

Senator SMITH of Georgia. Because the disease increases?

Dr. MELVIN. We hope there may not be any disease; even if we use none of this \$2,500,000 next year I would recommend to the Secretary reestimating for the full amount for the next year.

Senator SMITH of Georgia. For the \$2,500,000?

Dr. MELVIN. Yes, sir.

The CHAIRMAN. Doctor, you figure you would be better able hereafter to combat an outbreak than the last on account of the experience in perfecting an organization?

Dr. MELVIN. Yes; and also because of having the confidence of the stock owners that they would be promptly reimbursed.

The CHAIRMAN. And having a model method of cooperating with the States. That was one cause of delay, working out some modus operandi on which the State and Federal Government could co-operate?

Dr. MELVIN. We have under consideration a plan of work in case of future outbreaks, which we expect to submit to the various States and get their tentative approval, so that there will be no delay.

Senator GRONNA. Just one question: To what extent have the States cooperated with the Federal Government, Doctor? Have you experienced any trouble in that connection?

Dr. MELVIN. We have not had much trouble. The States have borne 50 per cent of the expense with reference to the purchase, slaughter, and burial of animals, and the disinfection of premises. We have not undertaken to furnish our inspectors on the half-and-half basis. In some States they were able to do more than in others. In some States the Federal Government practically furnished all of the inspection service.

Senator GRONNA. So that the States have contributed one-half of all the expense?

Dr. MELVIN. In regard to purchase of animals and their burial and the disinfection of premises, yes, sir.

Senator SMITH of Georgia. They have contributed half of the cost of the animals?

Dr. MELVIN. Yes, sir; in most of the States.

Senator SMITH of Georgia. So that the real cost has been some \$9,000,000 instead of \$4,500,000?

Dr. MELVIN. Yes, sir, practically so. I think our expenses have been somewhat more than theirs.

Senator GRONNA. I have been told, Doctor, that in some States the State had really contributed more than the Federal Government had contributed as reimbursement for the stock slaughtered.

Dr. MELVIN. Well, I think not generally. You take in Pennsylvania they did have a limit of \$40 on ordinary milch cows. A cow might be appraised at considerably more than that, say \$70. We paid \$35, and they made up so far as they could out of \$40. Sometimes we went to \$100, and we paid \$50. We paid our half in all those cases.

The CHAIRMAN. You pay half of what you estimate to be the value, and if the State pays more it is no concern of yours?

Dr. MELVIN. If they pay more or less, we are not concerned.

Senator WADSWORTH. How many cattle altogether have been killed in this last outbreak, in round figures?

Dr. MELVIN. The tabulated statement furnished to the committee gives that.

Senator WADSWORTH (referring to the table). I make this 172,000 head.

Dr. MELVIN. That is total animals, I think, is it not?

Senator WADSWORTH. Yes; 76,000 head of cattle, 86,000 head of hogs, and 9,000 sheep.

Senator GRONNA. If Congress should appropriate \$1,000,000, the States, of course, would be ready to pay \$1,000,000; and do you not believe, Doctor, we could get along until next December, when next Congress meets, with \$1,000,000?

Senator WADSWORTH. We will be here half the summer and be ready for you any time you want the money. [Laughter.]

Senator GRONNA. Of course, I realize this money has to be largely expended in my country—that is, in the western section—but at the same time I should like very much to see this bill reduced some; it is very large.

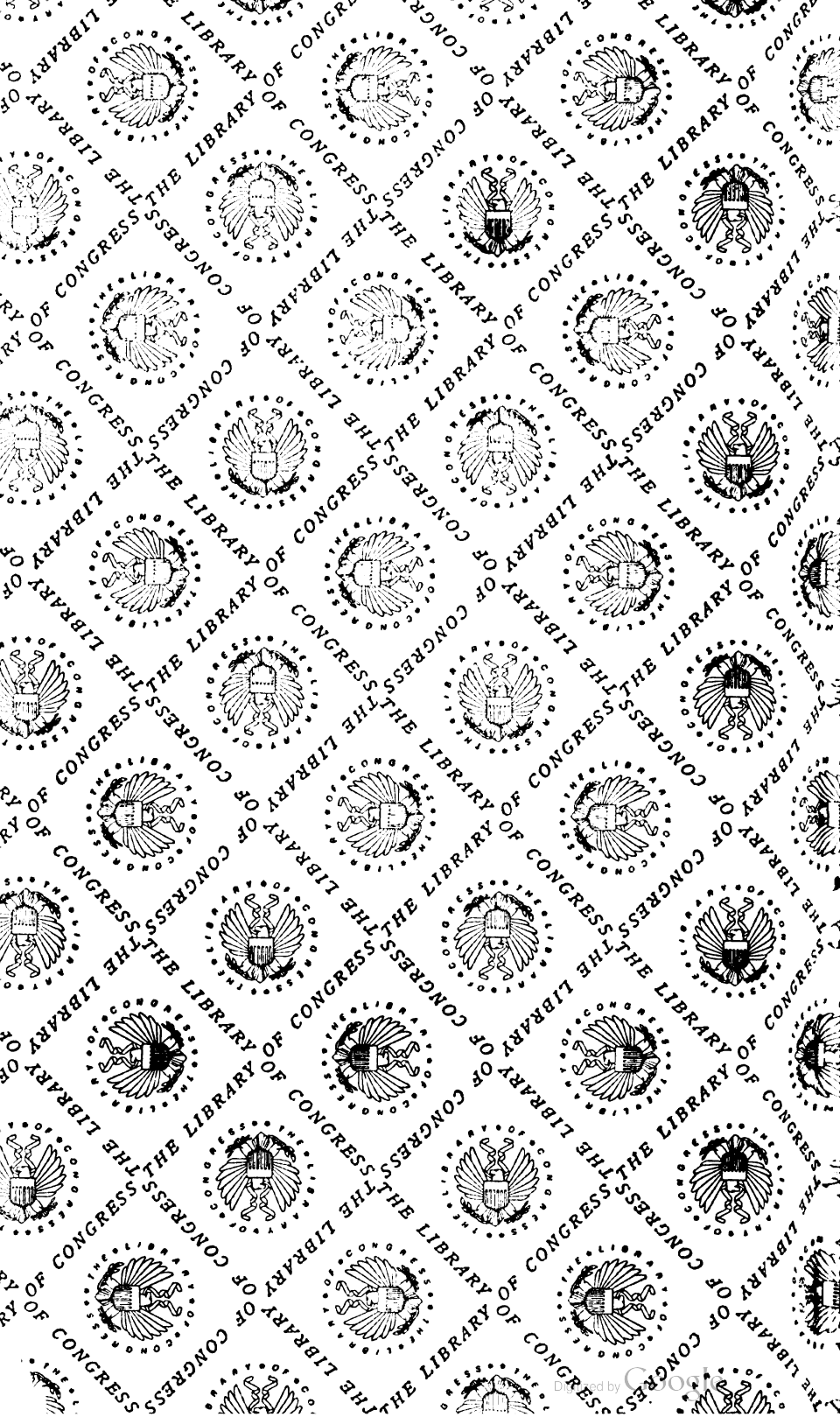
Senator JOHNSON of South Dakota. Mr. Chairman, has it not always been usual that Congress, in making appropriations for immediate use, in case of emergency, has not always been quite prompt in acting?

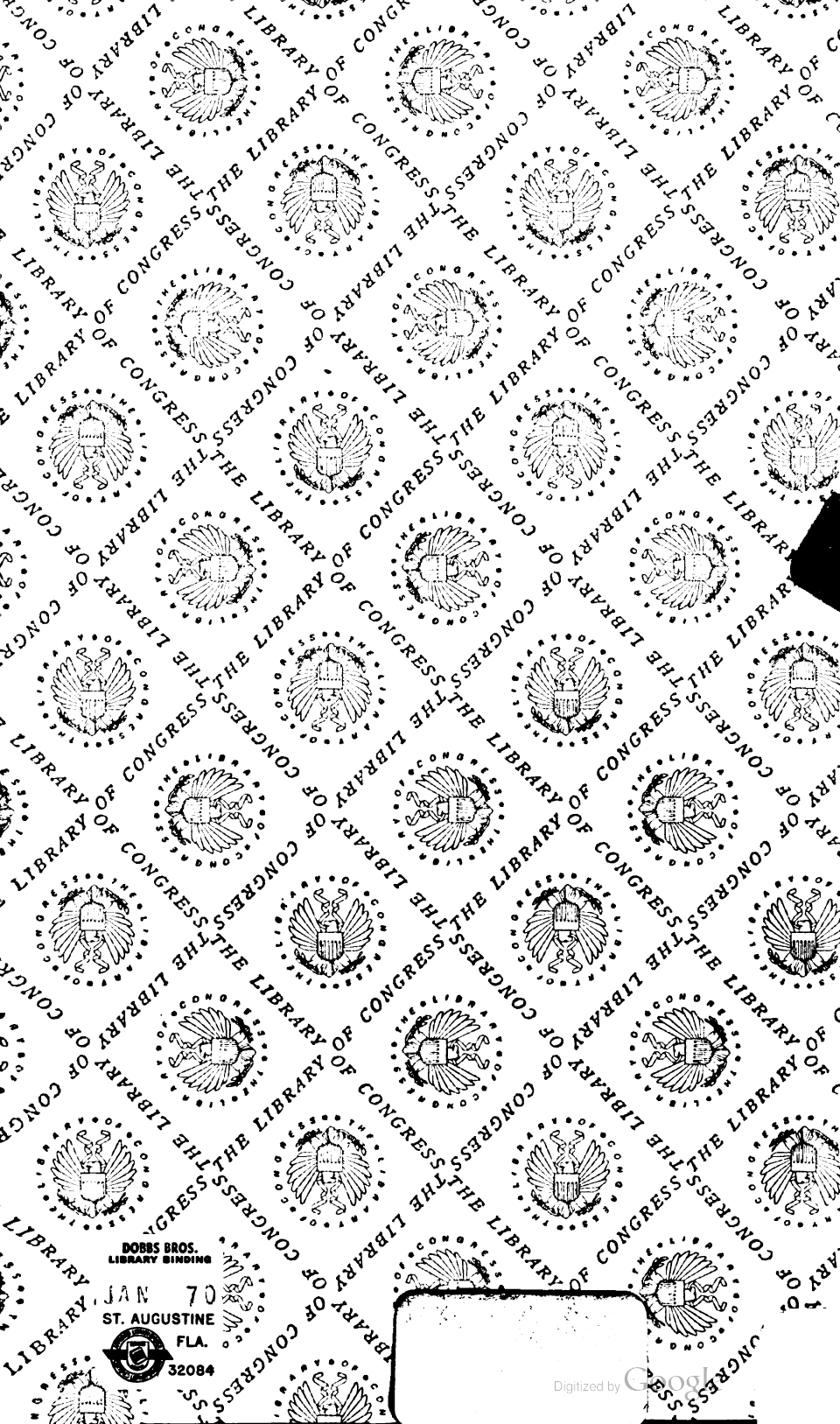
The CHAIRMAN. Yes, sir.

Dr. Melvin, we are very much obliged to you, as we are also to Dr. Mohler, whom it will hardly be necessary to ask to make a statement at this time.

If there is nothing further on this subject, the committee will now adjourn.

(Thereupon the committee adjourned subject to the call of the chairman.)





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